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Drug & Cosmetic INDUSTRY

July 1945

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Medium	17–23	19–27	25–45	24–40	.675–0.550	42.1–34.3
Heavy	15–17	15–19	20–25	19–24	.800–0.675	49.9–42.1
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Drug & Cosmetic INDUSTRY

JULY 1945

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Listed below are some of these toluene derivatives. These Hooker chemicals are of the same high standards of purity and uniformity as are all Hooker chemicals. Bulletin 320, available when requested on your letterhead, gives additional information on these toluene compounds and derivatives and their behavior in typical reactions. Hooker Technical Staff is also prepared to help you in the use of these chemicals for your particular purposes.

CHEMICAL OF THE MONTH
CHLORPROPANE LIQUID 170
$C_3H_{1.5}Cl_{6.5}$ (Average)

To chemists working in plastics, rubber, paints, and sanitary chemicals fields, Hooker Research Laboratories suggest that an investigation of this new Hooker Chemical may prove advantageous. Chlorpropane Liquid 170 is a clear, colorless liquid with a characteristic odor, is insoluble in water and soluble in alcohol, ether and most chlorinated solvents. It becomes quite viscous at temperatures below −50°C. It is resistant to oleum, mixed acids, fuming nitric acid and hydrogen fluoride.

Among resins found to be compatible with Chlorpropane Liquid 170 are: acrylic resins, chlorinated rubber, vinyl polymers, polyterpene resins, polyvinyl chloride and natural rubber.

Technical Data Sheet No. 333 describes the physical properties of Chlorpropane Wax. Research samples will be supplied when requested on your business letterhead.

PRODUCT *Chemical Formula* *Molecular Weight*	DESCRIPTION
Benzal Chloride $C_6H_5CHCl_2$; 161	Water clear liquid
Benzoate of Soda C_6H_5COONa; 144	White crystalline solid
Benzoic Acid C_6H_5COOH; 122.1	White crystalline solid
Benzoyl Chloride C_6H_5COCl; 140.5	Water clear liquid
Benzyl Alcohol, Tech $C_6H_5CH_2OH$; 108.1	Colorless to light yellow liquid
Benzyl Chloride $C_6H_5CH_2Cl$; 126.5	Clear, colorless to light yellow liquid
Metanitrobenzoyl Chloride $C_6H_4NO_2COCl$; 185.5	Yellow to brown liquid partially crystallized.
Paranitrobenzoyl Chloride $C_6H_4NO_2COCl$; 185.5	Yellow crystalline solid

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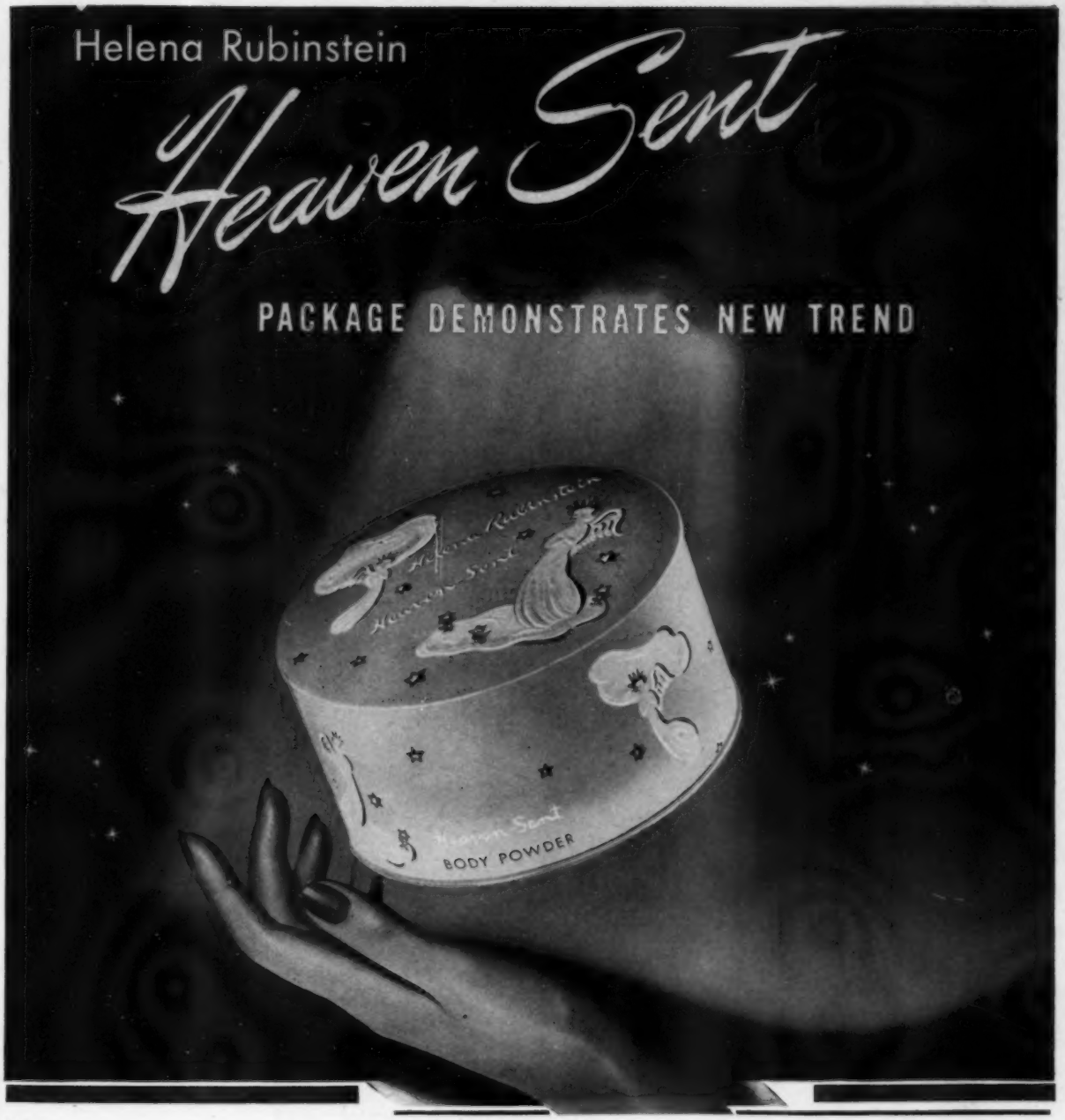

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1 It must be practical, production-planned, economical to manufacture, easy to fill or pack.

2 It must fully protect and conveniently dispense the product.

3 It must be easy to handle, to stack and display.

4 It must *proclaim* the quality and identity of your product.

5 It must be "good-looking," memorable, ATTRACTIVE!

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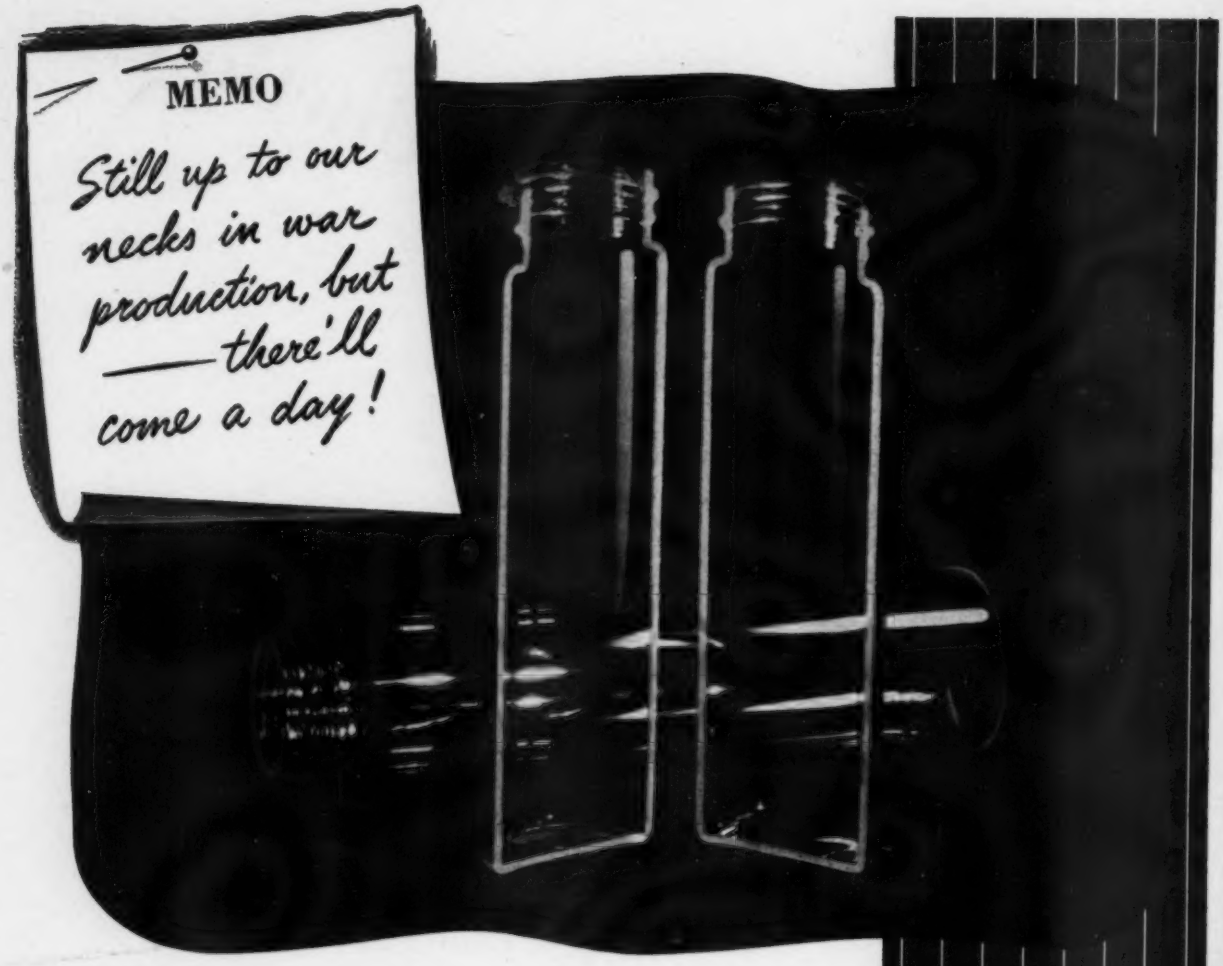

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INSIDE NEWS

JULY PREPARED BY NATIONAL CAN CORPORATION, NEW YORK, N. Y. 1945

Wartime Citronella Oil Scarcity Spotlights Increasing Output of Domestic Synthetic Product

When hordes of war-crazed Japs swarmed ashore on Java in the dark days of early 1942, the American man in the street was quick to realize the loss to the United Nations of valuable rubber and oil reserves. Less known to the general public, however, was the loss of an aromatic raw material important to soap makers. United States supplies of Java Citronella oil, a standby of long standing, were cut off almost overnight.

Today as our inevitable victory over Japan moves steadily towards a hard-won final triumph, the reconquest of Java appears to be only a matter of time and military strategy. As greater and greater areas of that populous and wealth-producing region will have been rewon, its rich natural resources will again be available to the democratic world through normal international commerce. Ships will carry Java rubber across the seven seas once more, with oil shipments following somewhat later when installations will have been rebuilt after our strategic bombings of Jap-held industrial positions.

But, after V-J Day, Java citronella oil may not be as widely imported by us as previously. Industrial developments in the United States may prove to make important permanent changes in the type of perfume agents most widely used in soap making. For wartime citronella oil scarcity has merely served to throw a spotlight of wider publicity on the increasing production and consumption of a domestic synthetic alternate which fulfills the former function of the Javanese product, as a perfuming agent.

Known as javonella, this all-American perfume agent is a pre-war development which has widened its usefulness under the spur of present-day shortages of imported competitive products. Developed some years ago by the research laboratory personnel of a Brooklyn, N. Y., corporation, javonella was produced to serve as a perfume agent in laundry soaps, cleansers, polishes and other technical products, imparting to them a clean, pleasant odor. It was particularly designed to overcome the greasy or fatty odor often present in inexpensive soaps.

With a marked similarity in character to Java citronella oil, javonella possesses certain modifications said to adapt it unusually well to its major role as a soap perfume. In fact, many manufacturers preferred it even before imported citronella oils became so scarce and so relatively high in price.

A number of them found its odor, which is of a minty, rosy character to be not only more pleasant than the odor of the Java perfume agent, but actually longer lasting also.

Whatever the trade conditions after the war may prove to be, one conclusion seems likely: a great part of javonella's war-strengthened popularity will be a permanent gain for this entirely domestic synthetic.

Perfume agents as well as the liquid cleansers and powdered soaps in which they are used, deserve the greatest possible packaging protection against deterioration. So another postwar prediction which can safely be made at this date is a forecast that tin containers will do their full part in delivering aromatic chemicals and soaps alike in a condition that insures undiminished effectiveness. 1015

Antigen for Allergies

A method of combining histamine with a large molecule to form a coupled reaction product which can be used as an antigen for developing resistance to allergic reactions is announced. Allergies are reported to be treated without prolonged testing. 1016

Soy Bean Developments

Soy bean sprout production for canning or freezing has developed significantly, yet little care is taken to secure good sprouting seed. Work sponsored by the Emergency Food Commission emphasized that a super seed stock is necessary. Seed should have germination of 90% or better, should be of the current year's crop, well matured, free from soil fungi and bacteria and free from thresher injury. Early harvested seed stocks proved to be low in the amount of bacteria carried on the seed coat. Improvements in the technique of sprouting are also under study. 1017

Insecticide from Benzene Hexachloride

A new insecticide developed in England is said to be particularly effective against locusts, crickets, the body louse, bedbug, leaf eating larvae and beetles, weevils, ants and wasps. The new insecticide is reported as being derived from benzene hexachloride. 1018

Synthetic Detergents

A number of the synthetic detergents newly introduced as substitutes for soap have proved to have disinfectant as well as detergent properties. Some of them have proved to be effective in destroying water-borne cysts. The following applications seem to be indicated: water disinfection, sanitation of eating utensils, cleansing of water filters, safeguarding of shell fish, and cleansing and disinfection of contaminated vegetables and fruits. 1019

Non-Flammability in Paint

Chlorinated poly-iso-olefine resins, containing 55 to 75% of chlorine, according to a recent foreign patent, present interesting properties. They are hard and clear, soluble in drying oils, compatible with many other resins, non-flammable, and rapid-drying from solution. They are claimed to impart their non-flammable characteristic to paints, varnishes and lacquers. 1020

Resins from Cashew Nut Shells

Cashew nut shells enclose a viscous liquid from which polymerized resins, now made, are finding interesting uses in industry. These resins are rubbery, infusible, insoluble, and possess excellent acid and alkali resistance. They are used in the electrical industry as stopping and filling agents in oil-filled cables, as splicing compounds, and as filling compositions for terminal boxes. 1021

Sprayed Snap Beans Tested

In order to control insects, especially the Mexican bean beetle, snap beans are sprayed with arsenicals. Experiments were conducted to find whether the ordinary canning procedure is effective in removing harmful arsenical residues. Various types of arsenicals and diluents were used. Results show that most residues are below the tolerance level after ordinary processing. 1022

Hexides for Tobacco Products

A new patent covers the use of hexides (hexitol dianhydrides) as conditioning agents in the manufacture of tobacco products instead of the ingredients now used to modify the natural flavor and aroma of tobacco. The new substance is reported to modify the tendencies of loose cigarettes to lose freshness and acquire bitterness while being smoked. 1023

Housekeeping Pays

The British use small portable vacuum cleaners in storage rooms, particularly for grain. Accumulations of dust and loose grain in floors, beams and ledges provide ideal breeding places for weevils and other organisms. Portable cleaners of the flexible hose type, with electric or gasoline driven blowers operating outside of the storage building, reach otherwise inaccessible spots, with great improvement to the quality of stored grains.

At least one American manufacturer, a spice grinder, finds that constant use of a vacuum cleaner in his storage and manu-

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facturing areas is indispensable in fighting dust and dirt, and the insidious losses in quality that come through flavor pick-up. 1024

Fish Across the Ocean

Shipment of 70,000 cases of canned salmon from Canada to Australia under the "mutual aid" agreement of the United Kingdom is made necessary not because of any lack of fish but because of the paucity of canning facilities in a country that heretofore has had no need for processed foods. 1025

To Keep Them Straight

Sugar chemistry is so complicated that the foundation, which sponsors the research work in new industrial and nutritional uses for sugar, has found it necessary to make a grant for one year to an expert on technical literature for the purpose of devising a system to classify sugar derivatives, and compiling a list of new derivatives discovered since 1930. 1026

For Safer Walking

Construction materials developed for airplane and ship use may make contributions to sanitation and cleanliness in postwar food plants. These include the nonslip walkway surfacing of thiokol rubber and ground cork, applied with a spray gun and ready for use in 12 to 14 hours, which remains flexible at temperatures from —20 to 160 deg. F. Another floor, used for shower and locker rooms, is reported to be non-conductive and resistant to soil, grease, fire and shock. As an added virtue it is bacteriostatic. 1027

Red Points Down Under

It has been announced that meat canned in Australia in 1944 showed a six-fold increase over the prewar output. Production in 1939-40 was only about 15,000 tons. This had been increased to 78,000 tons by 1943. Out of a total of about 91,000 tons in 1944, civilians got 6,500 tons. The civilian quota includes purchases for "ships' stores." 1028

Our Congratulations to Chemical Warfare Service

The Chemical Warfare Service of the United States Army has marked its 25th anniversary. We at National Can Corporation wish to extend our sincere congratulations.

We should like to express our appreciation, too, of the pleasant dealings we have always enjoyed with Chemical Warfare. At the same time we are also grateful to our many peacetime customers for bearing with us while we play our part in aiding the war effort.

Technical Topics

ASPARAGUS BUTT JUICE—When compared with oil-seed meals, the pressed juice from waste asparagus butts and trimmings offers several advantages for providing a media to develop bacteria. Nutrients of vegetable origin (soy bean, peanut, cottonseed, etc.) are commonly utilized in the microbiological production of solvents, organic acids, enzymes, and recently antibacterial substances. In view of the current inadequate supply of some of these vegetable materials, the using of asparagus-butt juice or similar replacements have been reported as possibilities. 1029

ANTIBIOTIC SUBSTANCES FOUND IN BUTTERCUP JUICE — Antibiotic substances have been found in many microorganisms, including several soil bacteria. Now a remedy full of promise is found in buttercup juice, extracted from leaves and blossoms of buttercup. 1030

NITROGLYCERINE BASE ROCKET POWDER INGREDIENT — Nitroglycerine and nitrocellulose are the base ingredients of rocket powder as used in bazookas and landing craft rocket guns. Despite widespread use by virtually every belligerent, rockets are even now largely in the experimental stage. Rockets, for instance, are inaccurate in comparison with guns. Many problems connected with rocket manufacture and tactical use are still far from being solved. 1031

HYDROXYACETIC ACID — A new British patent describes a process for the production of substantially pure hydroxyacetic acid by crystallizing it from aqueous solutions. The process permits preparation of this acid from esters of the acid. According to the patent this has heretofore been difficult to accomplish. 1032

CROTONIC ACID — A number of interesting industrial uses are visualized for crotonic acid. Among them are the synthesis of amino acids, pharmaceuticals, plasticizers, various organic intermediates, modified drying oils, and polymerized products such as resins. 1033

REDUCES HIGH BLOOD PRESSURE — According to a recent patent 1,3-dimethyl-y-chloromethyl-xanthine is claimed as effective for combating high blood pressure. It is a white crystalline substance recommended for use in doses of about 1 gr. every 2 to 4 hours. 1034

COMBATS STREPTOCOCCIC INFECTION — According to a recent patent, 4-acetamido-4-propionylamino-diphenylsulphone is claimed as effective in combating streptococcic and pneumococcic infections by oral or intraperitoneal administration. 1035

PRUNE OIL FOR PHARMACEUTICALS — Refined prune oil, made from pits, has been found useful in pharmaceuticals and cosmetic creams. 1036

THERAPEUTIC HORMONE—A method of producing a 99 per cent pure interstitial-cell-stimulating hormone is described as a valuable therapeutic agent for the obtention of specific physiological effects in medical situations requiring it. 1037

ADIPIC ACID FOR NYLON — A new British patent claims a continuous process for the manufacture of adipic acid (an intermediate said to be used in the production of nylon) by the oxidation of cyclohexanol with the aid of nitric acid. 1038

HYDROCARBON OIL STABILIZED — Hydrocarbon oil used for electric insulation is stabilized with diphenylpiperazine in amounts varying from 0.01 to 1.0 per cent, according to a recent patent. 1039

NEW TYPE INSECTICIDE ATOMIZER — A new type atomizer for the spraying of insecticides has been developed which is said to give unusually fine and effective dispersion. One-half cc of a 20% DDT solution is said to be sufficient to give effective treatment of a 1,000 cubic foot space. 1040

FOR SWEETENING — It has been announced that mineral acids and mold amylase are being used as saccharifying agents for the production of fermentable sugars from starch. 1041

DESTROYS WEEDS — In a recent experiment, Sovasol No. 75 was thinned with kerosene or stove oil and sprayed on carrot or parsnip gardens. This was found to kill weeds effectively without injuring the vegetables. 1042

Every effort will be made to furnish additional information on these articles. Where such information is not obtainable, we will refer inquiries to the original source of the article. Write to National Can Corporation, 110 East 42nd Street, New York City. Please mention the number at end of article—also name of the magazine you saw it in.

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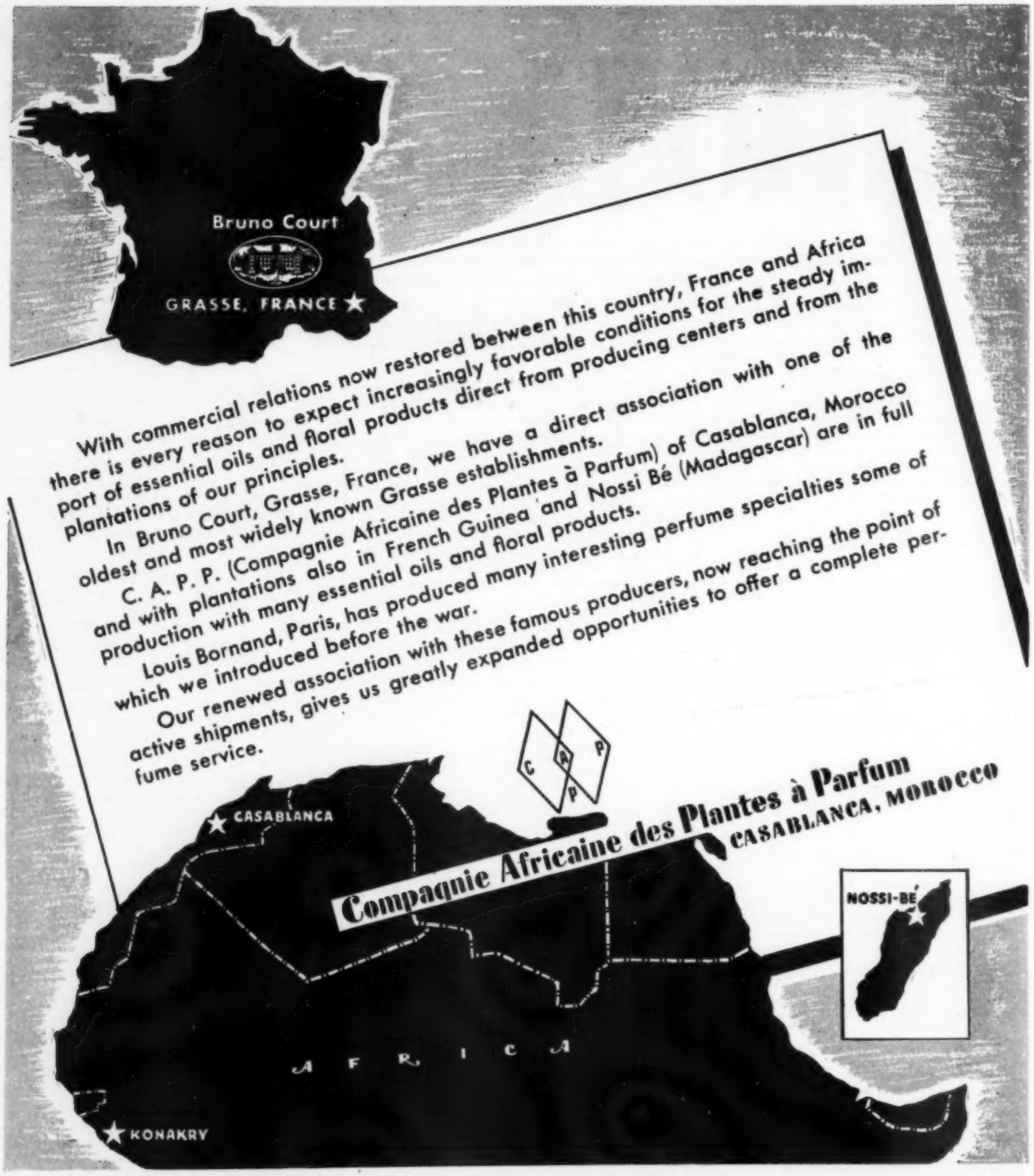
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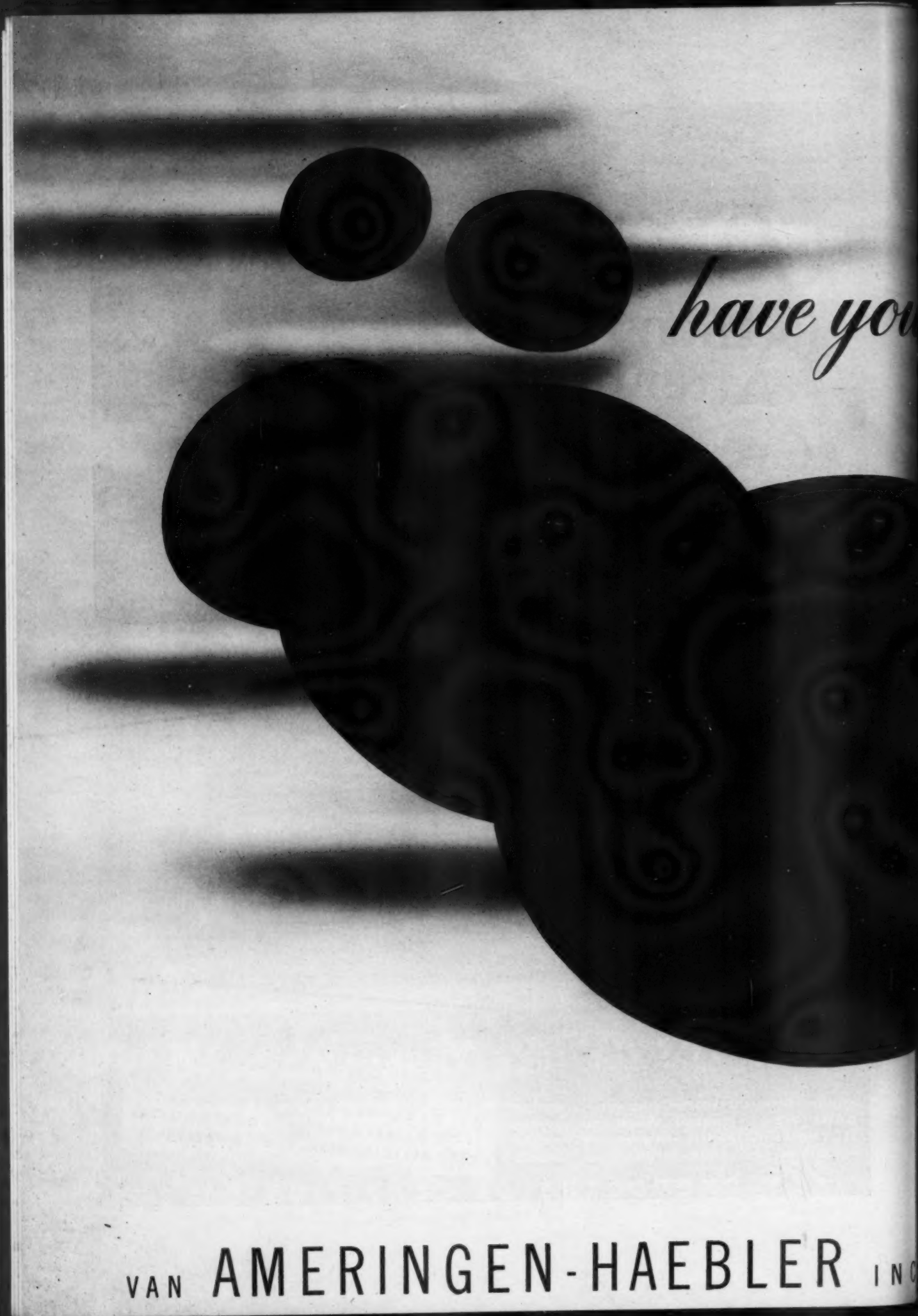

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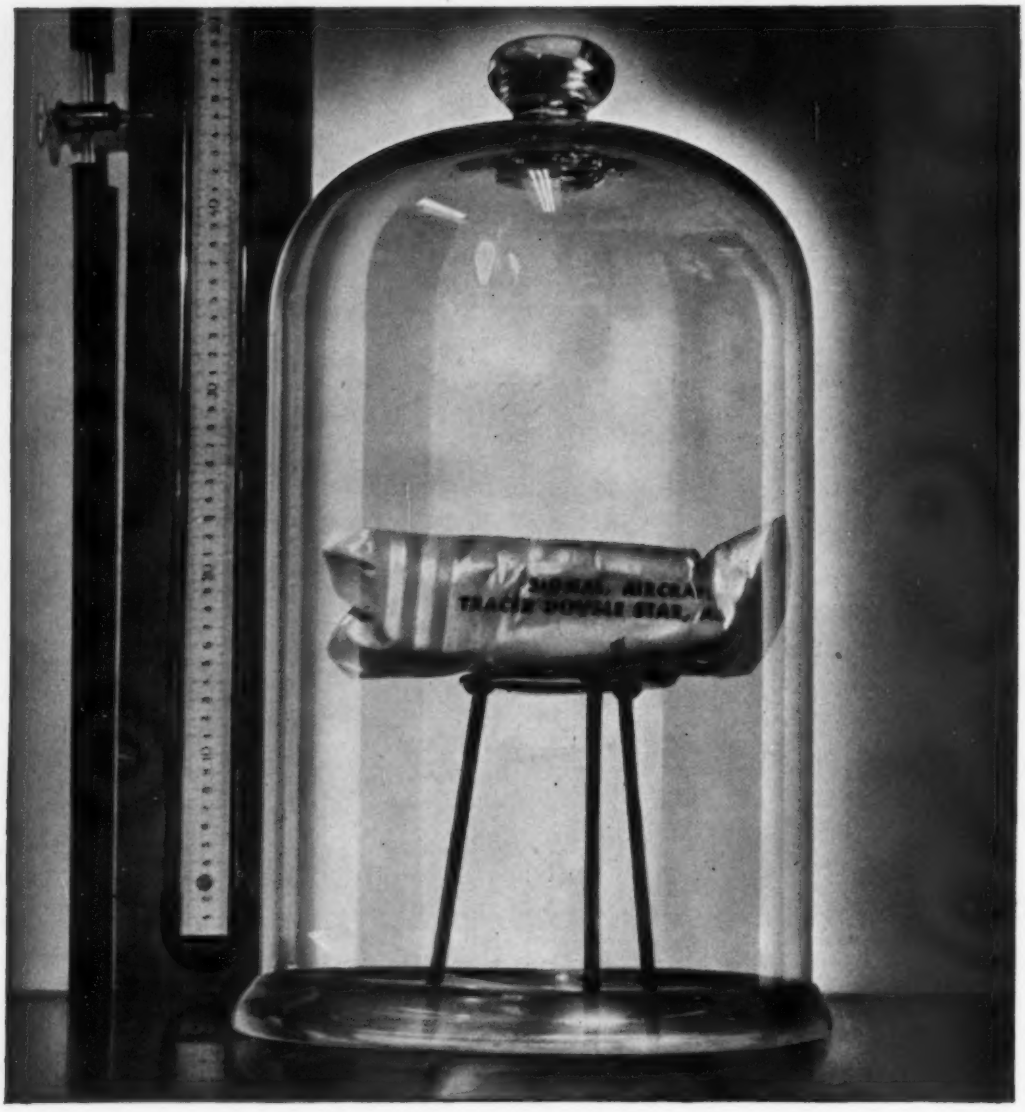

Yes—it's just a bell jar. But the air pressure in it duplicates the atmosphere 8 miles above the earth.

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These Eau de Colognes are part of the broad and comprehensive line of perfume oils that we have available for perfume, toilet water, cream, powder, and other cosmetics and toilet preparations.

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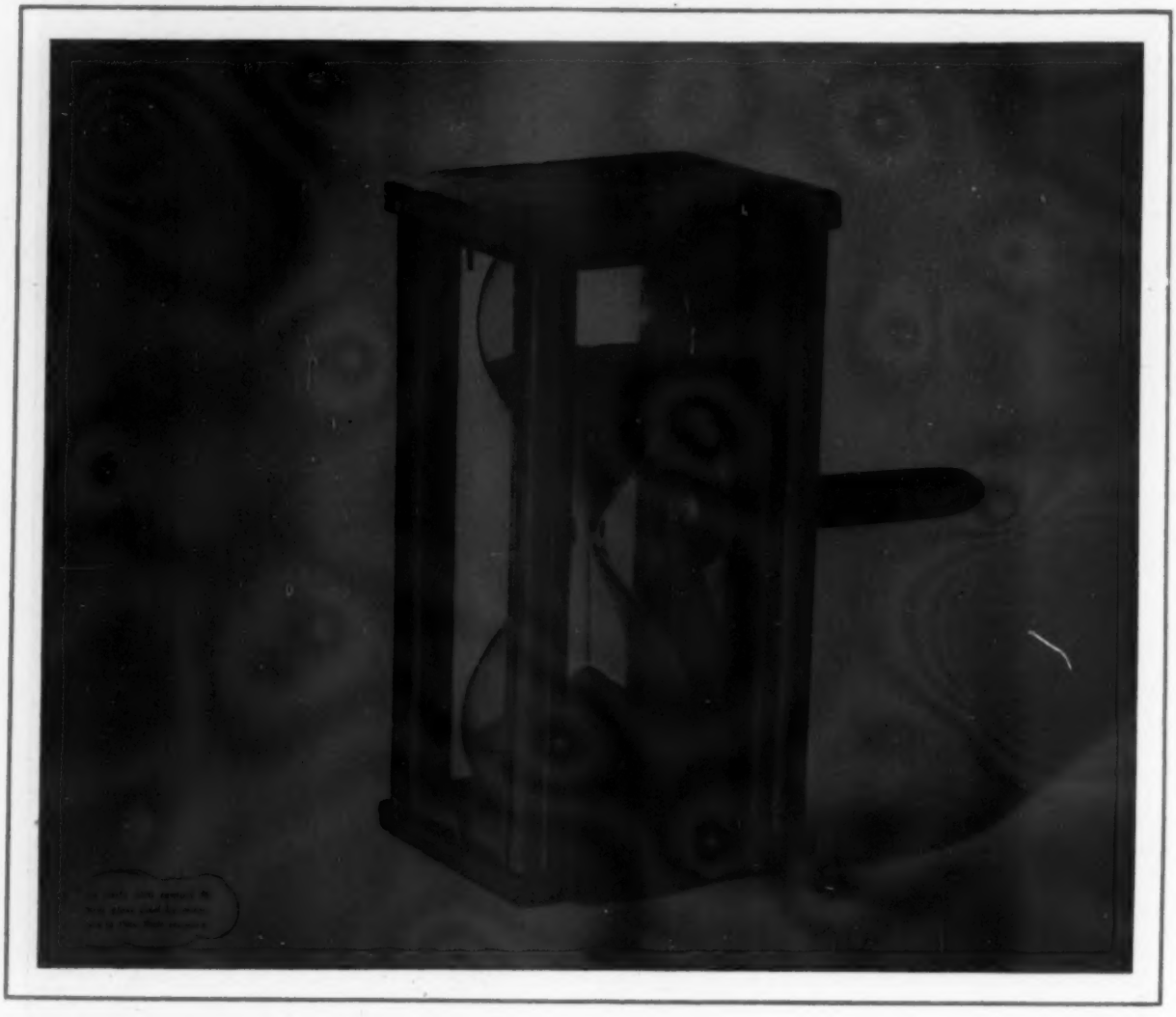

THE LOST MINUTES . . . the hours . . . the days . . . the years, that have measured an era of destruction and of human suffering without parallel, are over—at least in half of the world. And it is the earnest prayer of all Mankind that they may never be refound.

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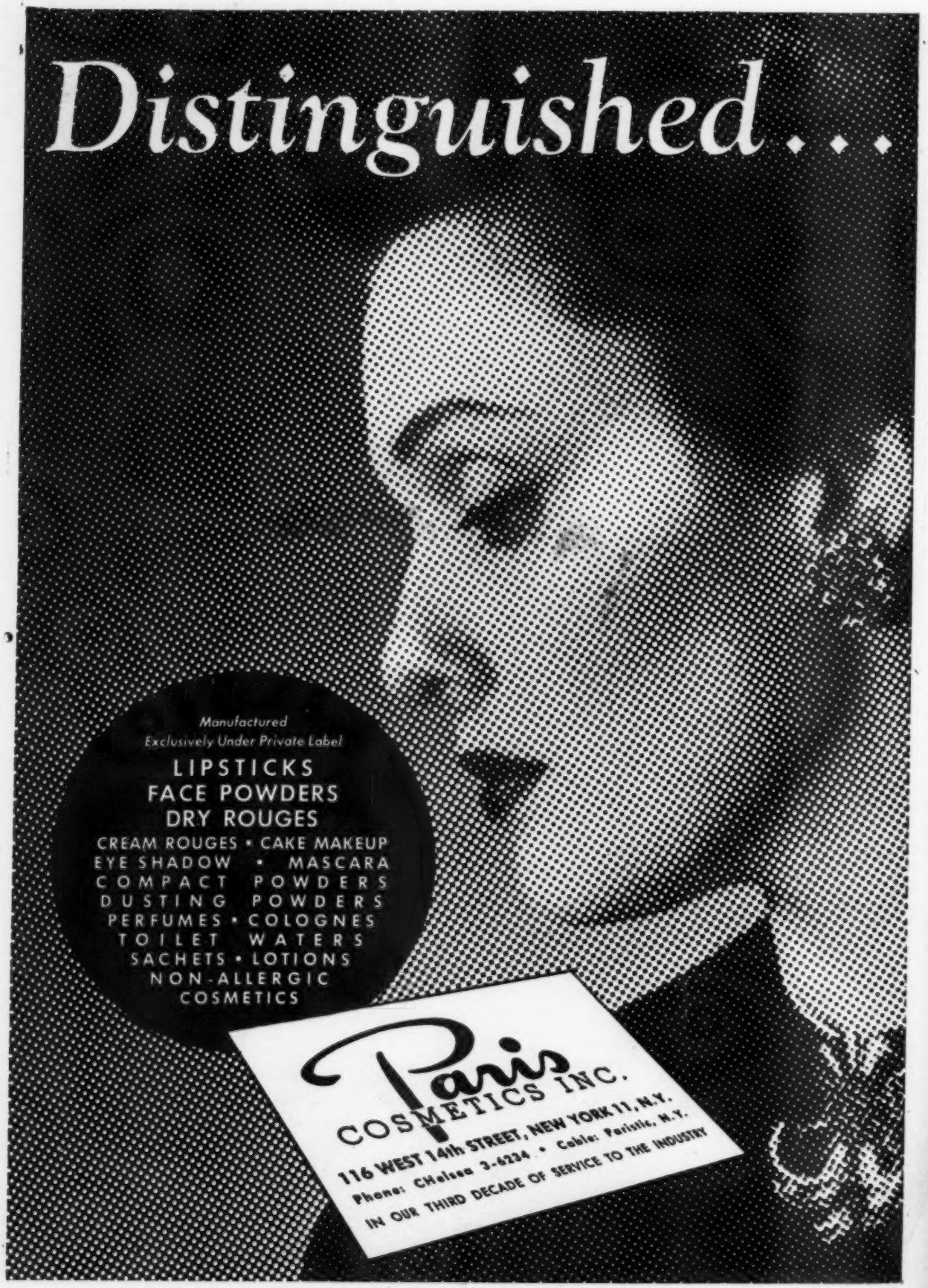
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As uncommon and ambitious as it may appear, this July issue is in complete harmony with our editorial faith in neighborhood people and the druggists who serve them.

Those who do not know neighborhood life in America will wonder why a magazine for retail druggists offers its readers exclusive articles on world problems by nationally known authorities.

Those who know America need no explanation. They, like the nationally known leaders who have written these articles, are fully aware of the importance of retail druggists not only as pharmacists, but as community leaders.

No business magazine of any kind has ever presented such an assembly of famous writers. Their participation in this issue is an impressive testimonial to the importance of retail druggists as neighborhood statesmen, and to the editorial character and enterprise of this magazine.

They and our editors realize the druggists of America are moving spirits in countless over-the-counter forums, where is generated the power of public opinion.

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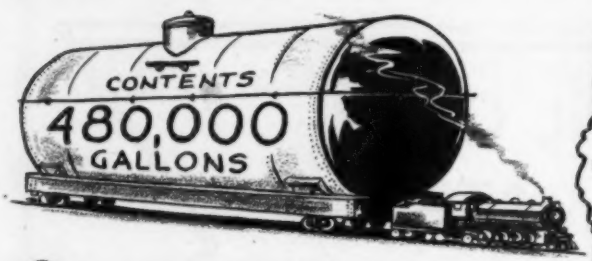

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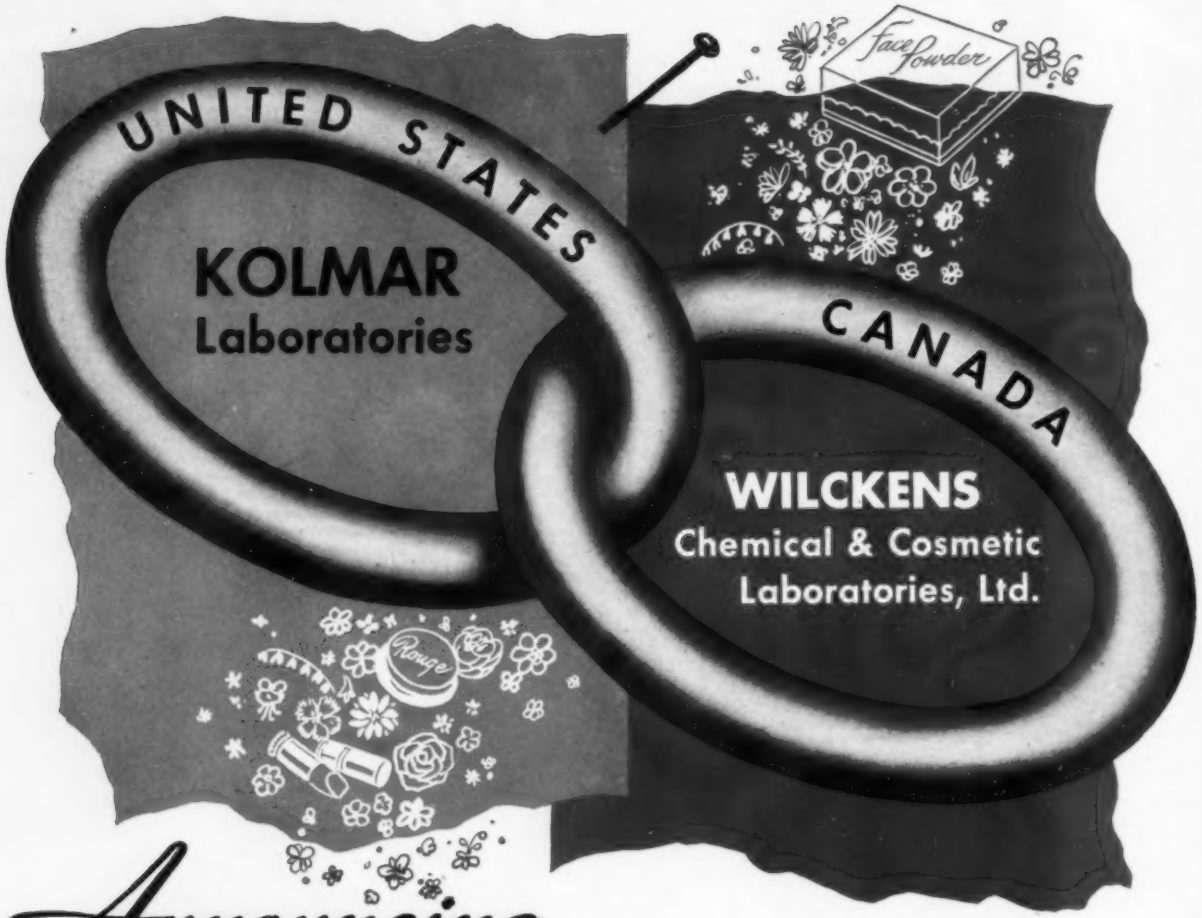

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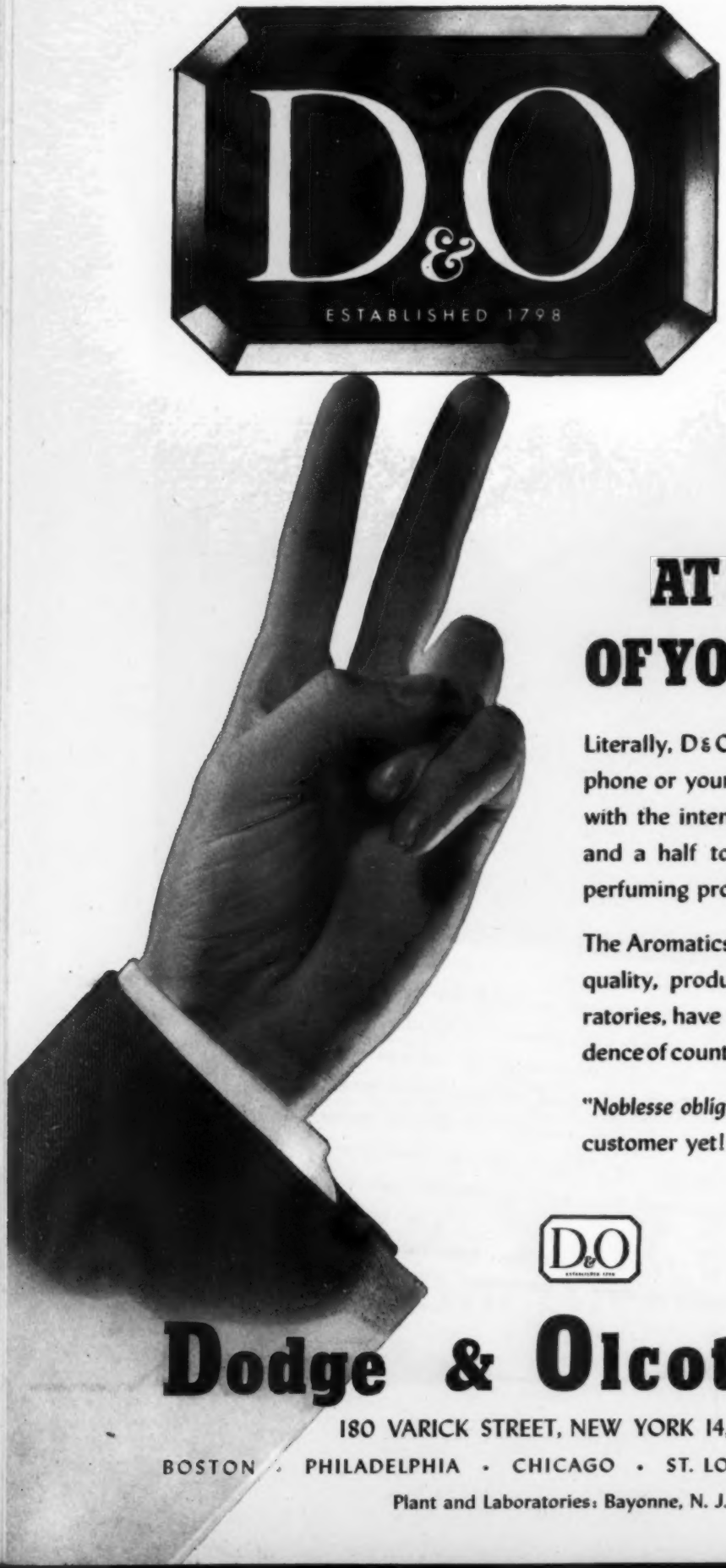

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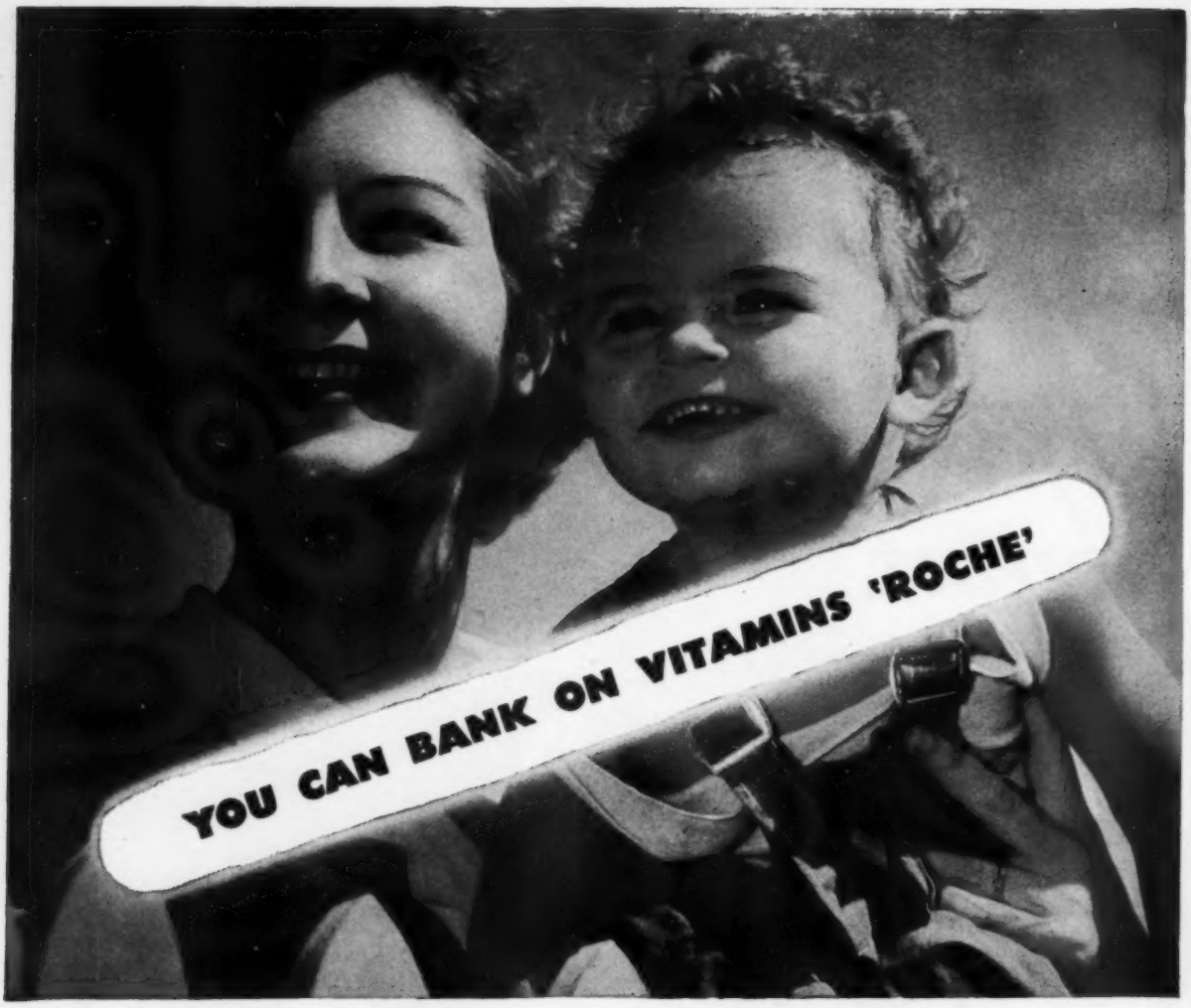

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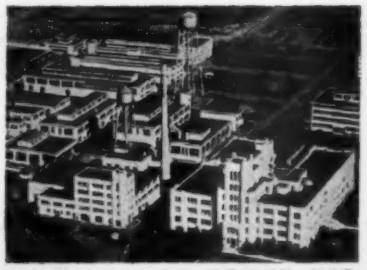

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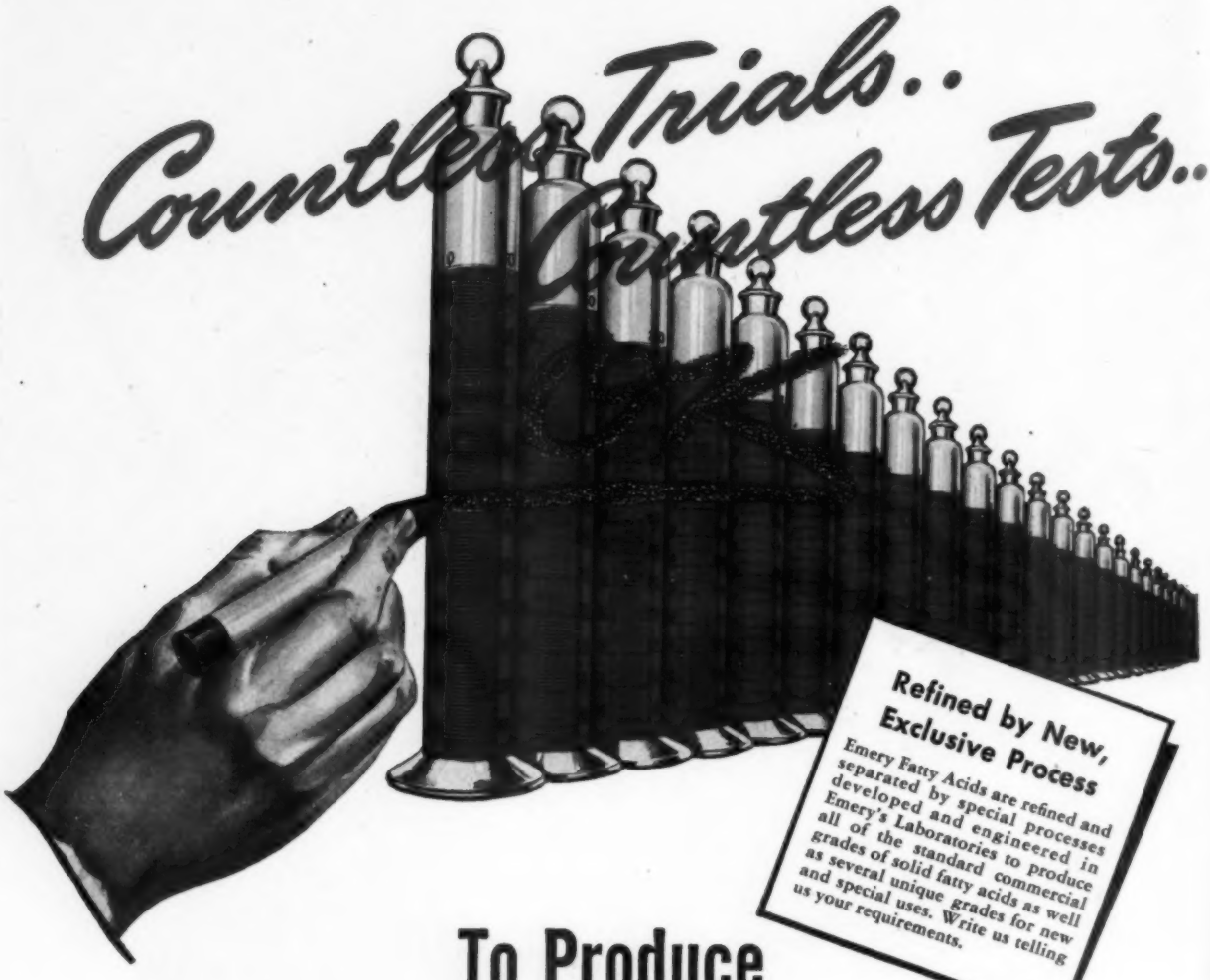

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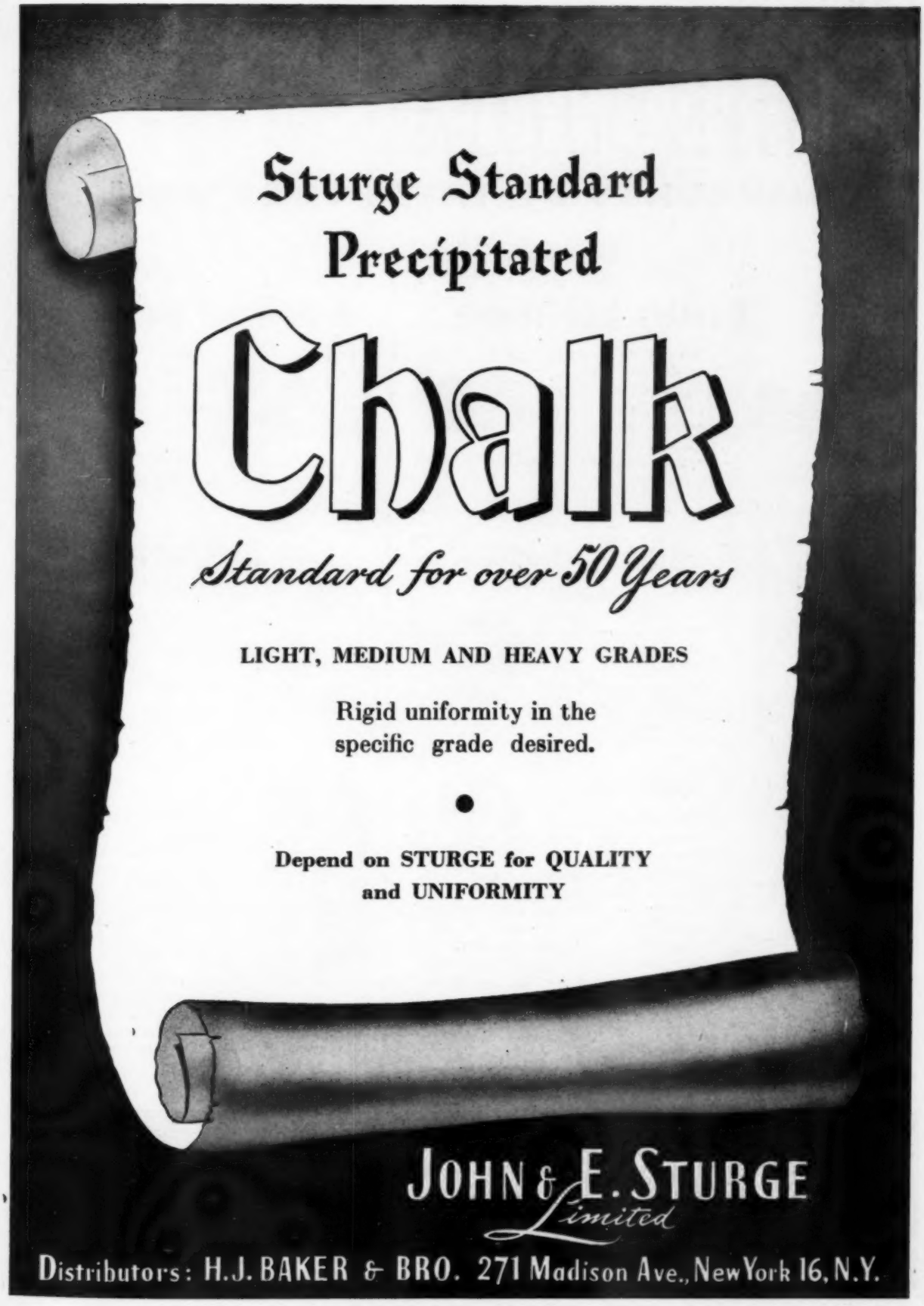
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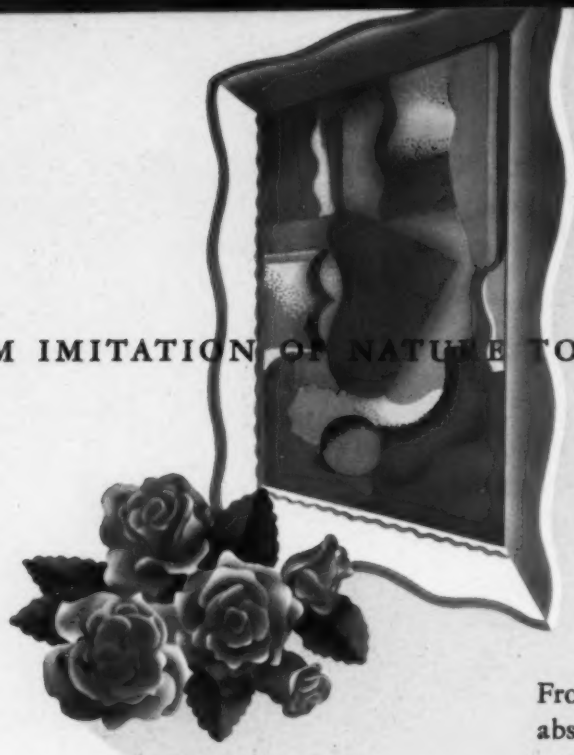

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From imitation of the formerly indispensable floral absolutes—long the despair of perfumers the world over—to creation of wholly imaginary odors which express an original idea of their own, the whole range of perfumery is included in the materials and facilities offered by Albert Verley & Company.

Whatever the type of odor you are seeking to create or to enhance from an existing formula, it is our aim to provide everything you need—including materials in any desired stage of fabrication up to the finished composition, and counsel to aid in the constant search for new effects.

In groups such as the exotics, it is especially important that you have at your command an array of specialties to impart the desired note of distinction. Such specialties have long been a prominent feature of our service; a few of them are listed here.

It is time now to reconsider all of your odors in the light of post-war competition. Are you ready to meet the higher standards of odor appeal which unquestionably will characterize the products of tomorrow? Let us help you review your position and offer helpful suggestions—in confidence and without obligation. Write or call today.

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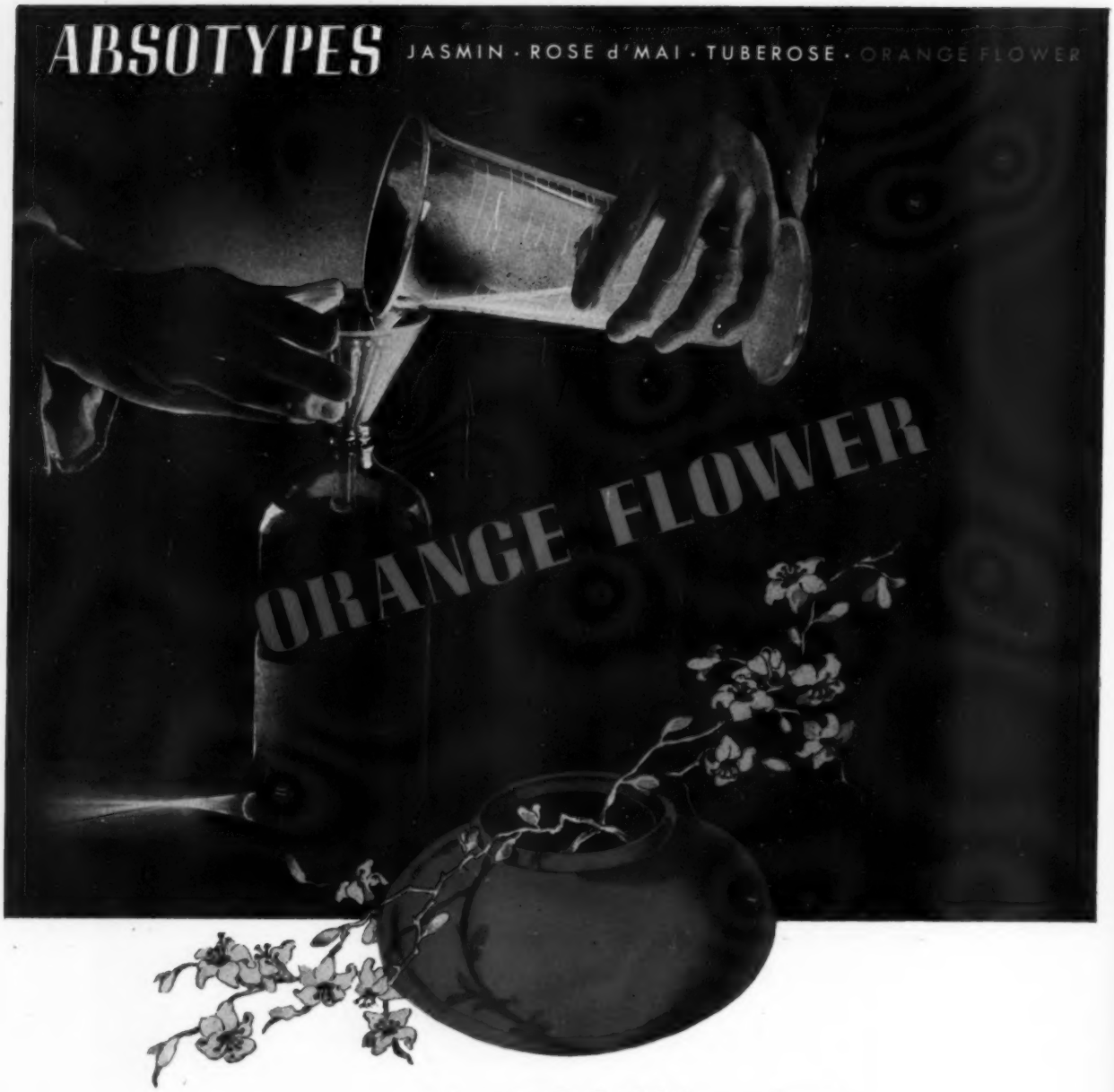

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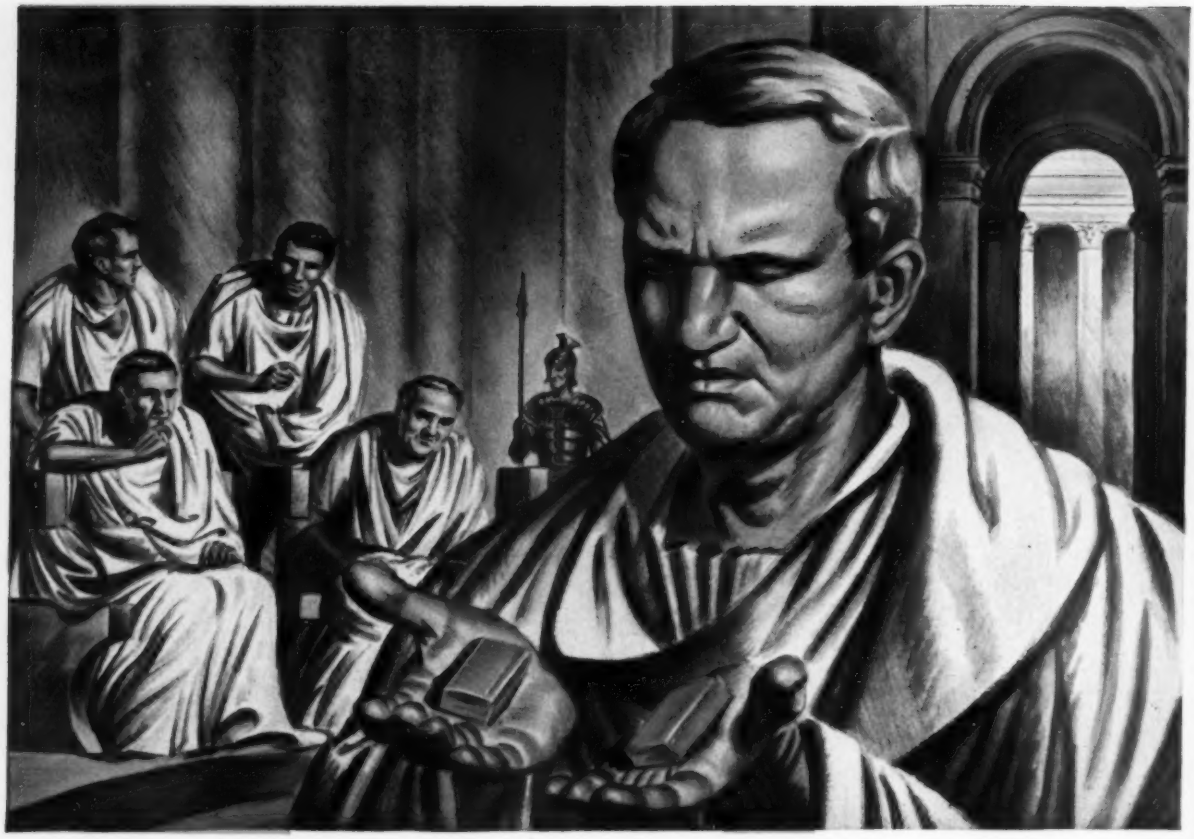

Cicero's dilemma

BECAUSE "orichalcum" was indistinguishable from gold, Cicero raised this question of ethics: If a man thinks he is selling "orichalcum"—but is actually selling gold—is the purchaser morally obligated to point out the error?

The only metal which the Romans could have mistaken for gold was brass, the alloy of copper and the then little understood element—zinc.

Although the Romans knew nothing of the elemental nature of zinc, it is surprising that sixteen centuries later chemists still confused zinc with other metals. Albertus Magnus thought that zinc was a compound of iron; Paracelsus held that it was a form of copper; and as late as 1597, Libavius described it as a peculiar kind of tin!

Modern research has shown that zinc is monatomic. It fuses at 419°C. and, under ordinary atmospheric pressure, boils at 907°C. On cooling, the molten metal deposits hexagonal crystals and freezes into a compact crystalline solid.

Since 1867, MALLINCKRODT has specialized in the development and production of zinc compounds to be used in medicine and industry. For zinc products of dependable uniformity and purity, specify **MALLINCKRODT Zinc Acetate, Bromide, Carbonate, Chloride, Oxide, Stearate, Sulfate, etc.**

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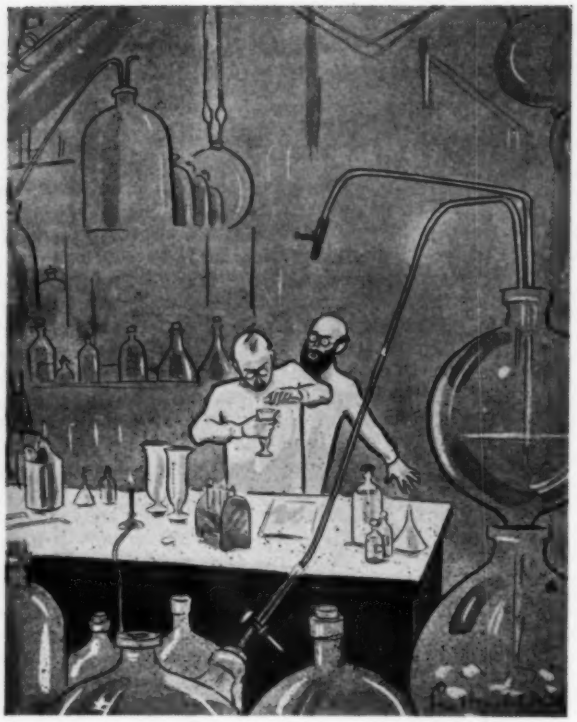


"I tell my wife we're making something better than penicillin. I don't dare tell her I'm just testing suppositories."

KEEPING POSTED

The A.M.A. and Estrogen Creams

THE estrogenic face creams—after eight years of quietude—have again been attacked by the American Medical Association, in a stinging report of the Council on Pharmacy and Chemistry appearing in the June 16 issue of the Journal of the A. M. A. It will be recalled that following the first attack, the only manufacturer of such a cream at that time sued the A. M. A. The case was settled about four years later, attacks ceased, and the manufacturer went on his merry way with large department stores again selling the cream although when the first attack appeared many of them dropped the item from their stores like a hot brick. New York City, which outlawed the sale of these creams, rescinded this action about two years ago, and the State of Virginia, which more recently passed a law prohibiting free sale of such creams, has realized the error of its ways and eliminated this restriction. Although there was only one manufacturer—the pioneer who fought most of the battles through the years that this type of cream has been on the market—there are now upwards of twenty manufacturers, and some of these are the leading cosmetic manufacturers of the country.

But the American Medical Association, ever anxious to get its nose in the tent of approval of cosmetic products, has seen fit to reopen its attack upon the estrogen cream even though the Food and Drug Administration and other official bodies throughout the country charged with restriction of the sale of dangerous products have seen fit to allow free sale of such creams. However, the A. M. A. does not give up easily, and although in the attack made eight years ago they had no basis for the remark that these creams might cause cancer, they bring the subject up again this time, although much more guardedly. In the current attack they state:

"*Much* experimental work has been done on the cancer-producing properties of estrogenic substances. In susceptible animals the administration of estrogens has *apparently* produced carcinoma, but further observations are necessary to determine all possible effects of long continued use of such substances in the average human being." (Italics ours.)

The A. M. A. again brings up the threat of use of these creams causing changes in the "menstrual rhythm",—the word "rhythm" probably being used in place of "cycle" properly to scare those women who use the method of limiting their offspring generally known to laymen as the "rhythm" method. The report of the council speaks glibly of "authorities in the field of endocrinology" who have stated "that there is no published and acceptable evidence that age changes and wrinkling are consequences of estrogen deficiency or that estrogen therapy in women who are known to be deficient in ovarian secretion produces changes in the skin." The report states further that "many authorities in the field of endocrinology have stated time after time that there is no satisfactory evidence which would justify the use of hormone-containing cosmetics for their local effects on the skin."

The report makes no attempt to tell who these authorities are or what experiments were conducted to arrive at these conclusions. Nor do they say whether the unknown number of endocrinologists to whom they refer all conducted their own research or if one made the statement with insufficient evidence and the others repeated it after him. Certainly if there were no basis for the claims made in the labeling and advertising of these preparations, the Food and Drug Administration and the Federal Trade Commission would have taken action long since. We are forced to the conclusion that the report of the Council on Pharmacy and Chemistry of the A. M. A. is just as lacking in proof as the report accuses the manufacturers of being, only with this difference: enforcement authorities are apparently willing to accept the statements of the manufacturers.

"Hollywood" As Trade-Mark

THE term "Hollywood" as a place of manufacture can be used if the goods are made in any part of the Los Angeles metropolitan area if the following parenthetical sentence follows the words "Hollywood California" on the label: (The term, "Hollywood, California", as used herein, means the entire city of Los Angeles, California, and those adjacent or contiguous independent municipalities which are generally regarded as comprising the Los Angeles metropolitan area, such as Culver City, Beverly Hills, Glendale and Santa Monica.)

New York City Bars Sulfa Drug Nose Drops and Bandages

ALL products containing any of the sulfa drugs are now restricted to prescriptions in New York City effective October 1. This ruling only affects nose drops and bandages containing sulfa drugs, since all other sulfa preparations were restricted by a previous order. The period to October 1 is designed to allow the manufacturers to dispose of their stocks. At a hearing held on the matter some months ago, a representative of Johnson & Johnson told the New York City Board of Health officials that if New York City ordered sulfa drug containing bandages to prescriptions, Johnson & Johnson would drop the item entirely because they felt that if New York City restricted these bandages to prescriptions, it would not be long before most of the rest of the country followed the lead of New York City.

Penicillin For Tablets

PENICILLIN is now released by WPB for incorporation in tablets, capsules, ointments, dental preparations and similar items for civilian use. Manufacturers were allowed to start manufacture of these items containing the drug on July 1, with distribution allowed August 1. This announcement followed a statement by WPB that approximately 885 billion units of penicillin for civilian human and veterinary parenteral use were distributed during the three months from March 15 to June 15 this year. This gives an average of 295 billion units per month. However, the original announcement by WPB, when civilian distribution was started, called for an allotment of 128 billion units during the last half of March, and 150 billion units during the entire month of April. Evidently, civilian distribution of the drug is increasing at a very rapid rate. That this is so is evidenced by the production figures issued by WPB as follows:

January	394 billion units
February	405 billion units
March	460 billion units
April	510 billion units
May	615 billion units
June	650 billion units

Since production is increasing rapidly, and since the European war is ended, more of the drug should be available for civilians every month. However, there remains the fact that Navy and Army personnel is being increased in the Pacific to the point where we probably will have more men in action there at one time than we ever had in Europe. If this is so, then the military demand will not decline but might even increase, and increased civilian supplies will have to come solely from increased production.

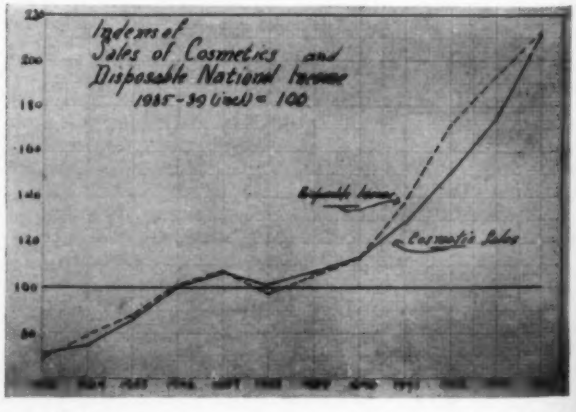
Cosmetics After the War

MUCH discussion of the postwar markets for cosmetics has taken place among those people particularly interested in this market. The chart showing our estimates of the production of cosmetics has shown a continuing sharp rise over the years now standing at a point of dollar volume that has more than doubled in the last ten years. Recently a friend of ours connected with a large financial institution reproduced our chart and plotted on it the disposable income of the country. Believe it or not, the line of the disposable income followed almost exactly our line of the dollar volume of cosmetic sales. Which seems to prove to us that when disposable income declines, as it soon will, the dollar volume of cosmetics will also decline.

However, the opinion seems quite general that although the dollar volume of the industry will decline, the number of packages sold will not decline at anything like the same rate of decline of dollar volume. It is thought that the number of packages of cosmetics sold in the postwar period will be greater than it was in the prewar period. The reasoning is along these lines: During the wartime period of large incomes, girls who formerly bought their supplies of cosmetics in the five and dime stores at low prices have been in the chips and have been buying the well known high-priced quality lines. Thus, the dollar volume of the cosmetic industry has partially increased without regard to the number of packages sold. When income is cut, these girls will try to buy as many packages of cosmetics as they did before, but they will revert to the lower priced lines. As an example, one chap recently told us that he was in the factory of one of the leading manufacturers of quality cosmetics and was amazed to learn that this firm was turning out 36,000 bottles per day of cosmetic stockings that retail for $1.50 each. This he maintains will not continue, nor will the enormous sale of quality lipsticks, face powders or other cosmetics; many buyers of these items will revert to the twenty-five cent lipsticks and other lower-priced items sold in the so-called five and dime stores. For this reason the postwar picture for the cosmetic industry as a whole is not as dark as might be anticipated if one merely considered the dollar volume and not the number of units sold.

Steenbock Patents Invalid

THE Steenbock synthetic vitamin D patents, held by the Wisconsin Alumni Research Foundation have been declared invalid by the U. S. Supreme Court by that court's action in refusing to review the decision of the Ninth Federal Circuit Court which formerly ruled the patents invalid. The circuit court decision reversed the decision of the U. S. District Court of Southern California, which court declared the patents infringed by Vitamin Technologists, Inc.



Patents for License

AN interesting service to industry and inventors was recently put into effect by the U. S. Patent Office. The purpose of the service is to bring to the attention of all interested people in the country patented inventions, the owners of which are willing to grant licenses on reasonable terms. To accomplish this purpose, a Register of Patents Available for Licensing has been established at the U. S. Patent Office. Patents recorded on this register will be available to the public for inspection in Washington. Lists of these patents will be published in the Official Gazette of the Patent Office. This strikes us as a worthwhile service to industry, and as patents of interest to our industry become available for licensing we intend to bring them to the attention of our readers.

Fleming Against Free Use of Penicillin

IN HIS talk at a dinner given in his honor at the Waldorf-Astoria Hotel last month, Sir Alexander Fleming — the discoverer of penicillin — warned against indiscriminate use of penicillin by the layman. The reason for Sir Alexander's order was that people might take too small doses and thus cause the germs that are treating to become resistant to penicillin. Then these same people might pass on to someone else these penicillin-fast germs resulting in the other person contracting the disease and dying because penicillin would not be effective.

What Cosmetics Will Hold Expansion?

MANUFACTURERS are considering postwar business in cosmetics from the point of view of which item introduced during the war will continue to sell in real quantity after the war and which will fall by the wayside or shrink to a relatively small volume. Also, they are considering which of the older items are most likely to hold a large part of the wartime spurt in sales. It is generally conceded that cosmetic stockings will continue as a marketable item, although with the return of Nylons at a reasonable price the market will shrink considerably. The reason for this is plain: Nylons do something for the legs that cosmetic stockings can never do — Nylons help to shape the leg and give it better form. On the other hand there are those who maintain that cosmetic stockings will become a style item through the use of many shades that will be very attractive during the summer season,—colors that would not be applicable to stockings.

Hand creams and lotions are expected to lose a large part of their wartime boom in sales for the reason that less women will be working in plants and less women will be doing their own housework as the labor market loses its stringency.

On the other hand the cosmetics that are used for purely decorative purposes are expected to hold a very large part of their increased sales, although at lower prices. The reason for this is that those women who have been using cosmetics for the first time during the war are expected to continue to use such things as lipsticks, face powder, rouge, nail polish, and other decorative products. Face creams also are expected to hold a large part of their increased sales for the same reason.

Fleming Tells of Accident

WE WERE very much impressed by Sir Alexander Fleming when he spoke at the dinner. He is a cute little Scotchman with a keen sense of humor and very becoming modesty. We liked particularly his description of the accident that caused him to discover penicillin. He said that of all the hundreds of molds that might have happened to blow in the window at that particular time, it just happened that penicillin notatum blew in. And it just so happened that when that particular mold blew in the window it landed on a culture plate that contained a certain type of staphylcoccus. If any other mold had blown in, or if the plate had contained streptococcus, or any of the other many bacteria that it might have contained, penicillin would never have been discovered. And then Sir Alexander said that if he had been working in one of our beautifully clean air conditioned laboratories, no mold at all could have blown in the window. It would be interesting if someone would calculate the chances against the occurrence which Sir Alexander noticed and which led to the discovery of this important drug.

Sir Alexander dwelt at some length on the cooperation between British and American science and the cooperation between competing companies in both countries that made the rapid production of penicillin possible, saying that this only occurred because these two nations were in the midst of a bloody war. He was very earnest in his plea that this sort of cooperation between British and American science be continued.

British Cosmetic Makers Associate

AFTER long discussions, British manufacturers of perfumes, cosmetics, and other toilet preparations have gotten together and formed an association called the Toilet Preparations and Perfumery Manufacturers' Federation of Great Britain. The formation of the association took place May 17 at a meeting to which were invited all registered manufacturers. Membership is restricted to actual manufacturers and owners of proprietary brands with a proviso allowing for possible associate membership at some future date.

Post-war Detergents Loom Large

POSTWAR expansions are being planned by some chemical companies despite the fact that curtailment of orders is in immediate prospect once the war is terminated. This is due in certain instances to the fact that manufacturers have been making products that were just about in the development stage when the war broke out, but heavy demand for these products by the Government caused heavy production to be maintained on a twenty-four hour basis of operation. One of these fields is that of synthetic detergents which are now being taken almost completely by the Government but which are expected to find a very wide civilian market once supplies are available. For this reason it is necessary to have larger plants because, once the war is over and manpower and equipment is more readily available, it will be desirable to abandon the night shift in many chemical operations.

New Drug Regulations

THE new regulations for labeling under the Federal Food, Drug, and Cosmetic Act become effective October 10, and in the meanwhile manufacturers must make marked changes in the products which are affected by these regulations. As will be recalled, these regulations were formulated to force manufacturers to give adequate directions on all over-the-counter products. The reason for this is that it was felt that manufacturers were avoiding the responsibility of giving adequate directions for use by merely labeling their product "for use only on the prescription of a physician" when in fact the product was sold quite extensively over the counter to anyone who asked for it.

The net result of the enforcement of these regulations will be that there will be only two types of preparations on the market,—those which are definitely restricted to sale only on prescription, and those which are sold over the counter with adequate directions for use whether advertised to the public or only to the medical profession.

Adequate directions include indications. Where there is doubt as to the safety or efficacy for lay use of a product sold over the counter, the decision must be made in favor of restricting the product to prescriptions. A product advertised solely to the medical profession, but which can safely be used by the public must bear adequate directions for use.

On products of several uses, some of which uses are safe for the laity under practical directions, and others of which require professional supervision, adequate directions for the lay uses, including therapeutic indications, may be followed by a statement that any other use should be as directed by a physician or solely under the direction of a physician.

The scheme of having two different packages for different uses of the same product is contrary to the regulations. If the product is safe and efficacious for lay use, it is not entitled to exemption from carrying adequate directions for use. Veterinary products are exempt in this respect, as one package for human use may require that the product be sold only on prescription, while the same product for veterinary use can be packaged with adequate directions for use.

The Rx legend should not appear on products sold over the counter with adequate directions for use, as the purpose of this legend is to warn the pharmacist not to sell the product over the counter. A secondary but equally important purpose of the legend is to warn the public against use of the product without medical advice.

Products sold directly to the medical profession need bear only a quantitative statement of active ingredients on the label if information for safe and efficacious use is available elsewhere. If desired, this information may accompany the package.

In passing on new drug applications, the FDA will decide how such drugs are to be classified under these regulations.

There will be some new drugs for oral use for which application will be made effective with the requirement that adequate directions for use must accompany the package until such time as the profession becomes familiar with the product. Amendment of the application is necessary to effect any changes in the labeling.

Adequate directions on products for parenteral use will vary from product to product, depending on the basic knowledge of the profession. A product that would require no directions for use would be morphine sulfate, while unestablished products would have to be accompanied by circulars containing adequate directions for use, such as indications, contra-indications, and all other necessary information so that the product could be used safely and efficaciously.

Some products will not have to carry indications, although they will have to carry directions and warnings. Products of this type are represented by aspirin and cascara sagrada, the uses of which are familiar to everyone who buys them. Also parenteral preparations such as morphine sulfate tablets, dextrose and sodium chloride solutions will not carry indications although directions on administration are required.

Relatively few of the ordinary household drugs will not have to carry adequate directions for use. These would be products like rubbing alcohol, smelling salts, eye cups. Consumer surveys may be made to determine if the public knows enough to drop directions on other products. Some of them may require warnings but not directions.

Desiccated animal tissues (thymus, ovary, etc.) whose activity is questionable, particularly when taken by mouth, will continue to bear the statement: "No known active principle." These products will also bear the Rx legend. FDA claims that even though not dangerous in themselves, these products cannot be used efficaciously by the layman and therefore should not be sold across the counter. Also those botanicals which most physicians have discarded, but which are still being used in prescriptions, are of questionable efficacy when used by the layman, regardless of safety. They are also considered to belong in the general class of products which must bear the Rx legend and not be sold over the counter.

De Kruif on Doctors

IN HIS latest book, "The Male Hormone," Paul de Kruif makes some interesting observations regarding the medical profession. We quote:

"We've got a rank and file (of doctors) who are exactly as average as any other profession, like plumbers, garage mechanics or undertakers. They, the rank and file, are not doctors from an inborn or inspired passion to fight death and make life stronger; they're doctors because it's a job in a high-placed profession; they're definitely in the doctoring *business*—or otherwise they wouldn't, as an organization, be howling so loudly about the practice of medicine, as a private enterprise, being taken over by the government. (Not that such a move would make the doctors any better.) Doctoring is not generally religious. The rank and file are not hot about new life-saving discovery. If they were, they'd be building bonfires in the street and holding guild parades over the terrific death-fighting success of such new remedies as the sulfas or penicillin."

"Who was Banting before he discovered insulin? Who was Manfred Sakel before he began shocking schizophrenics back to sanity? They were nobodies. What 'authority' ever discovered anything? Not one. They're too busy politicking themselves into becoming authorities."

AMA Asks Industry Cooperation

THE American Medical Association has asked the American Drug Manufacturers Association, the American Pharmaceutical Manufacturers Association, and other interested groups to aid in the setting up of a therapeutic trials committee. The ADMA and the APMA have appointed members to attend a meeting called for July 17. The therapeutic trials committee is to be patterned after a similar organization in England which passes on the therapeutic value of new drugs. It is thought that a like committee in this country would be beneficial in the work of the new drug section of the Federal Food, Drug, and Cosmetic Act. It is indeed interesting to see the AMA calling on the ADMA, APMA, and other groups to cooperate with it in this type of thing. In the past, the AMA settled these things all by themselves and rather scorned any outside advice or opinions. Perhaps the subject is getting too broad and the AMA feels the need of advice of the specialists in chemistry, pharmacology, and other fields which the pharmaceutical manufacturers employ. At any rate this latest step certainly indicates a change in the thinking of the AMA which formerly was cocksure that it could speak authoritatively on almost anything.

Future of Drug Control

WHAT the drug manufacturers may expect in the way of extended control of their products by the Food and Drug Administration is indicated in an address recently delivered by George P. Larrick, of the FDA, before the Association of Food and Drug Officials of the United States. Salient excerpts follows:

"The present problem of preventing the sale to the lay public without prescription of dangerous drugs and the indiscriminate refilling of prescriptions for such drugs is a good illustration. The most we can hope to do is to supplement the activities of local authorities particularly where local laws do not permit adequate regulations.

"The future of drug regulations will as in the past be influenced by changes in medical practice and by the development of new and different types of medicines. At the moment it appears that penicillin and later perhaps other so-called antibiotic drugs will appear on the market in a wide variety of dosage form. So far as penicillin and its preparations are concerned we hope to control interstate distribution through a licensing system similar to that authorized in the case of insulin.

"In spite of the growth of the drug control project at both local and national levels much remains to be done. Our present staff of 200 inspectors and a balancing number of laboratory and other technical personnel will most certainly never be increased to the point where we could hope to deal effectively with all of the abuses which are within the limits of Federal jurisdiction. As in all Food and Drug enforcement programs the best efforts of all of us are required to give the public the utmost protection which our various statutes and facilities permit.

Drugs for Import

FOR import, the U. S. Court of Customs and Patents Appeals has ruled that the definition of the term "drug," as used in the tariff act of 1930, is not limited to drugs which, in their imported state, are ready for medicinal use without further processing. The ruling was concerned with assessment of duty on potassium oestradiol solution which was assessed at 25 per cent as a non-alcoholic chemical compound not specifically provided for. Sherka Chemical Company, the importer, contended that it was properly dutiable at 10 per cent as a drug of animal origin, not specifically provided for, advanced in value or condition. The U. S. Customs Court held for the government and against the importer, but this was reversed on appeal.

Advertising to the Doctor

IT COSTS almost five times as much to gain the attention of a doctor by direct mail as it does by a published advertisement (direct mail cost $0.20, against $0.45 for a published advertisement), according to a study by Chicago University School of Business, on grant from Murray Breese Associates. The Journal of the American Medical Association, Modern Medicine, and other journals have been consistently used in the study. The full report, published in the Journal of Business of the University of Chicago, covers such details as the doctor's field of practice; the amount of mail received, opened and read by doctors; the factors most important to the doctor's determination to open and read direct mail; the proportionate recognition, degree of interest, and quality of impression gained by advertising, both through direct mail and in medical publications.

No Price Ceiling for Government

WHEN a ceiling price affects the government in its purchases, it is eliminated, if the latest OPA ruling on vitamin oils is any criterion. The order states that price control exemption has been granted on sales to any government agency of viatmin A and D medicinal oil containing 2,000 units of vitamin A and 200 units of vitamin D per gram. The ruling further states that "the War Food Administration advises that this oil is being offered to the agency at relatively low prices and that it would be in a position to obtain substantial quantities if no ceiling prices were in effect. The oil would be used by WFA to take the place of more expensive cod liver oil for lend-lease commitments."

How often during the war have dealers in vitamin oils been up against the same proposition with no relief granted? Repeatedly we have been told by these dealers that they could obtain plenty of oil if the OPA would allow the producers to cover their increased costs by being allowed to pay higher prices for oils that were available. The facts, as OPA states, "this particular low potency vitamin A and D oil is not a regular item of commerce in the United States," and that, "retention of ceilings on these particular sales would serve no useful purpose in the stabilization program and (the exemption) will not result in the diversion of essential manpower or materials from production more necessary for the total war effort," are quite beside the point. The main point is that when the government wants products of this type to fulfill its demands it allows price control to go by the board, while private individuals who are trying to fulfill an essential civilian demand must adhere to ceiling prices and not their requirements of these necessary materials.

The Drug Industry's

Chemotherapy and Return to Drugs Important in Post-War Merchandising

As THE branch of medicine known as chemotherapy develops further, certain restrictions regarding its use are brought to the fore. Chemotherapy was first introduced to the medical profession with the discovery of the arsphenamines for the treatment of syphilis. The arsphenamines were known to be toxic, and care was used in their application. But the results obtained in stopping the progress of this terrible disease warranted the use of these drugs, even though they were toxic. Great things were expected of chemotherapy following the discovery of the arsphenamines, but nothing outstanding was developed for a very long period of years. During this long space of time interest in chemotherapy waned and there was a period of greatly increased interest in the biologicals.

Then in the thirties, the sulfonamides appeared on the scene and interest was revived in chemotherapy. Later penicillin and other anti-biotics made their appearance and interest in chemotherapy reached a new high. The sulfonamides were an amazing group of drugs accomplishing cures that never before had been witnessed. But as they were used, their shortcomings were discovered, and their toxicity was revealed. Also an unusual thing was discovered. It was found that a patient or a germ could be resistant to the drug. This led to the recommendation that these drugs should not be used in ordinary cases, but only in desperate cases where their use was necessary to save life. Following this discovery, as well as the discovery of the toxicity of the sulfonamides, their use was generally restricted to doctors' prescriptions with the exceptions of sulfonamide-containing bandages and nose drops. Now New York City has seen fit to prohibit over-the-counter sale of even the bandages and nose drops thus preventing, as far as possible, all self-medication with preparations containing sulfonamides. Therefore, although these nose drops and bandages have produced excellent results, as attested by physicians themselves, a prescription is necessary if one is to obtain them. The difficulty of this prescription restriction is that these prescriptions can as a rule be refilled without further recourse to the doctor who gave the original prescription. Therefore, unless doctors take the step of marking these prescriptions non-refillable, there will still be a fair amount of self-medication with sulfonamides.

But following the sulfonamides, penicillin made its appearance. This product proved even much more amazing than the sulfonamides. This drug not only proved most effective in many of the conditions that the sulfonamides controlled, but it also proved effective in a long list of diseases that the sulfonamides did not affect. Moreover it was—so far as could be determined —completely non-toxic and there was no such thing as an overdose. Dosages of penicillin are being stepped up to very high figures such as one million units in one injection, and totals of eight million to 30 million units in twenty-four hours. Doctors have been asking themselves, where is the hitch? But all they can answer is, if there is a hitch, we haven't found it. Even then they will tell you that there might be a hitch as it took fifteen or sixteen to find the hitch in amidopyrine, a drug that they will tell you was a remarkable help in controlling pain, but a drug that they dare not use to any extent any more.

Penicillin has proven effective too as a prophylactic. Enthusiasts in surgery and obstetrics give an injection of fifty thousand units before an operation or a delivery and then constant injections for a period of five days following the operation or delivery. No infections and flat normal temperature charts are claimed by these doctors. When informed of this, one layman raised the question of whether or not such perfect prophylactic measures might not tend to make the doctor somewhat careless in his technique because of his certainty that the penicillin would overcome any infection that might otherwise develop.

However, one thing that was found out about penicillin is that it, like the sulfonamides, when used in

Post-War Program

all types of disease, might cause a person, or a germ to become resistant to its effects. Therefore, there are many of the medical profession who claim that penicillin, like the sulfonamides, should only be used in desperate cases since its use in ordinary cases might result in it having no effect when a later desperate case arises. None other than Sir Alexander Fleming, the discoverer of penicillin, has warned against promiscuous use for this reason. Therefore self-medication with penicillin and the free use of penicillin in ointments, tooth pastes, and other preparations commonly used by the layman without benefit of a member of the medical profession might likely be prohibited by public health officials. This would mean that this most important drug, like the sulfonamides will be restricted to use only while under the care of a physician.

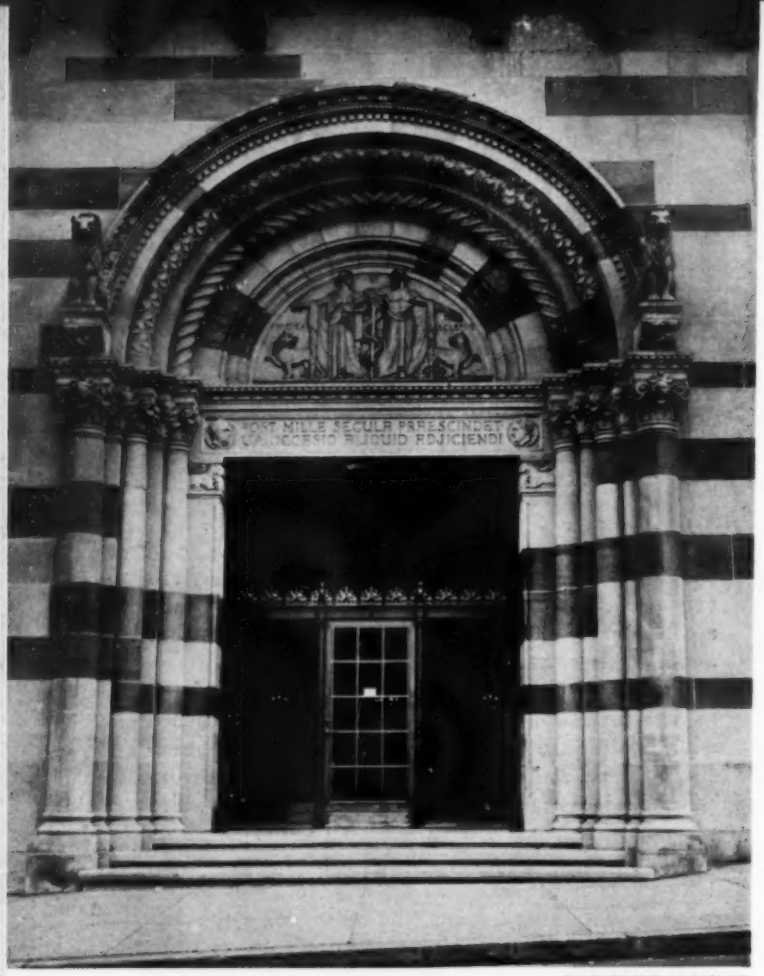
These developments in the field of chemotherapy—which is at the present time the most promising division of medical science, promise to have a profound effect upon the future of drug and pharmaceutical manufacturing, wholesaling, and retailing. From these two outstanding examples of accomplishment in the control of disease by chemotherapy, it is indicated that this promising field is not likely to yield many, if any, products that can be used indiscriminately by the layman. If this is so, then the practice of self-medication will decline and the large bulk of the products used for the control of disease will be professional products sold only on the prescription of a physician. And if abuse of prescriptions exists to any marked extent so that self-medication exists in the face of this restriction, then it will not be long before the life of a prescription is limited by physicians.

However, there is one important point that must not be overlooked and that is that the development of chemotherapy has brought about a sharp return to the use of drugs in the control of disease. It will be recalled that during the twenties, the medical profession, generally speaking, had pretty much turned away from the use of drugs and were largely talking about fresh air, diet, taking it easy, and a lot of other things. However, when the sulfonamides made their appearance during the early thirties, a major swing back to the use of drugs took place. The later sulfonamides and then penicillin clinched this new interest in the use of drugs on the part of the medical profession. Now they are very much alert to the use of these products and they are constantly on the watch for all the new ones that are being developed.

Because of this new interest on the part of the medical profession in the use of drugs we have reached a new high in the use of drugs generally that is not entirely the result of the conditions of high national income and other factors resulting from the war in which we have been engaged for close to four years. The level of volume of drug manufacturing, wholesaling, and retailing is bound to be higher when peace comes than it was before these new drugs were discovered and before the medical profession returned to drugs generally for the control of disease. The main reason for this is that no matter whether people are allowed to buy and use these new products or not, they are going to buy and use drugs of some sort for self-medication. And in addition to this normal business—which really depends upon the state of health of the nation and the national income—much greater quantities of drugs are going to be used by the doctors in treating the cases that come under their care.

However, if these two chemotherapeutic products, as well as other similar products that are later developed, are completely restricted to use while under the care of a physician, the flow of a large part of the products will be greatly altered. For such a development would mean that the hospitals, state and county boards of health and institutions, as well as the doctors and large professional outlets would become much more important to the drug and pharmaceutical manufacturers, wholesalers, and retailers than they were before. It will mean that the ordinary individual who goes into the drug store is not as important in the scheme of things as he has been in the past. It will probably mean greatly augmented and more highly developed detail staffs on the part of the drug and pharmaceutical manufacturers, and it might mean that wholesalers and retailers will go in for detailing to a marked extent.

These appear to be the facts as they are and the future seems to be somewhat of the nature outlined above. Therefore, it would be well for all members of this industry to lay their plans to meet these conditions as soon as they can once the war is over.



CHARLES PHELPS CUSHING

Modern Remedies For Remote Control

By O. S. GIBBS, M.D., Ch.B.*

THE remarkable scientific advances made in the past few years have so changed both the philosophy and practice of medicine that constant revision is entailed, not only to prevent ourselves lagging behind and becoming out-moded, but also that we may efficiently utilize current knowledge in the treatment of the manifold conditions that affect animals and man.

Probably the most important of all these recent advances is the establishment of the general conception that all functional activities of the body are controlled by pharmacological agents. From this base has arisen in more recent times, especially following the analysis of drugs acting on the autonomic system, the most interesting possibility that broad general controls may be so modified that local actions may be accomplished with the minimum disturbance elsewhere. By good fortune it has already become possible to achieve such effects against certain hostile infecting agents, and this picture has been rendered truly remarkable by the discovery of penicillin and analogous materials. Nevertheless work by drug professionals had already prepared the mind to the possibility of such a relationship of quantitative factors in a pharmacologically active series that practical organ specificity might occur. As knowledge progresses one may conceive of the time when any function in the body will be pharmacologically accessible without generalized disturbance.

That this future, already becoming real, should not be ever present in the thoughts and plans of drug manufacturers seems unlikely. Indeed much of the work stems from such sources, but it does appear that certain elements of those mostly concerned with the manufacture of remedies for very remote control are still more interested in perpetuating the past than with orienting themselves in the present and the future. Not very long ago I was assured that a certain remedy must be good for it had been sold for sixty years. Probably it was a good remedy sixty years ago, and indeed might still be today, but medicine and pharmacology has made gigantic strides since that time, and to preserve the usefulness of any remedy is exactly like guarding the integrity of a business, namely it must be prepared and able to function on a basis competitive with modern knowledge.

Except only where gaps in our knowledge prevent otherwise, all remedies for wide-spread distribution should today be capable of mass production, and this is only possible satisfactorily when the finished product is capable of accurate control. Seemingly the first factor to be considered in modern design is the question of pharmacological uniformity for if this cannot be assured the entire distribution rests on unstable foundations.

Naturally the finer the production controls the surer a manufacturer can be of his products, and to those on

*Report to the Scientific Section of the Proprietary Assn.

whom the burden of detailed distribution also falls such uniformity adds to its other virtues that of being an impressive protection.

Consideration of this important factor explains why drugs capable of accurate estimation are always to be preferred even though they may not perhaps be quite as active therapeutically. It also explains why many and possibly useful agents have been dropped from practical use, and, the thought occurs that if the users had not been content to work with old unstandardized pharmaceutical messes but had kept the chemistry and pharmacology parallel with the times, the tide of control knowledge might not have drowned them out. As there are still preparations of this type, both official and non-official in wide use, these remarks apply also to the present and future, as well as to the past. To attempt to prepare a new remedy without adequate control of uniformity would probably be a fruitless effort since it would almost certainly be found not "acceptable."

For years I have battled the idea that a medical man may learn how to write prescriptions as an academic subject remote from sick humanity. A prescription can only be intelligently devised if it has an objective, or target, and as animals and man vary greatly one from the other, the professional use of drugs cannot be accomplished by the rote learning of prescriptions. The argument that the larger bulk of humanity falls into an average picture, and thus dose range, and thus may be usefully treated by such prescriptions is true, but, for professional treatment I have never considered the use of a blanket average good enough, especially as the prime purpose of the doctor-patient relationship, and for which the patient is paying, is to obtain individual treatment. Incidentally for those who clamor for "social medicine" it may be pertinent to repeat once again, that all such systems are perforce based on blanket averages resulting in a sacrifice of the more precise and individual attention attainable by the normal competitive system.

For less urgent matters, or those that fall under serious economic control, the treatment by prescription, or average, is better than no treatment at all. Thus we find in all large hospitals and clinics; all medical service agencies such as the Army; Navy; Social Services and other forms of mass medicine such as the British Panel System; this use of prescriptions based on blanket averages. As the degree of personal supervision becomes increasingly remote, so the prescriptions tend to become more and more standardized, until finally, as for example in armies, or in medicine kits devised for non-medical agencies such as official kits for seamen, the remedies supplied may bear merely some code number.

Clearly the design of a remedy for such remote control use has to pay more and more attention to its safety the further away it is from skilled supervision. As a natural consequence some therapeutic agents, even of great value, are generally unsuitable for such a purpose, except under such conditions where the dangers of poisoning are still to be preferred to untreated cases. Wide spread diseases like malaria, and worm infestations are far better treated by the laity, than not at all. This is a matter of considerable importance to wide areas of the world, including some of our Southern States. As I have previously stated (1) human repair and maintenance is and probably always will be controlled very largely by economic factors, in consequence they enter importantly into the design of all remedies, but especially those for remote control.

Since all medical ammunition must be fired at some therapeutic target, including of course protection and prophylaxis, this must be sufficiently clear to be aimed at. Just as with other targets the farther one stands away from it, the larger it must be, in consequence the farther one is away from the actual patient the larger must be the mass problem involved. Suppose for example one discovered a cure for ainhum, a rather rare disease affecting certain African tribes, it would probably hardly be worth making as an average prescription, let alone one for remote control. On the other hand a target as gigantic as malaria, the greatest killer of man, is suitable for every possible kind of therapeutic ammunition from the highly skilled and dangerous intravenous medication for individual cases to the blanket use of the remote controlled "Chill Tonics." However, even in one country, especially one as large and variable as this, the use of blanket prescriptions is neither sensible nor economic. In Maine or New York City for example, "Chill Tonics" (by which I mean the standard southern type of anti-malarial mixtures) have not a target large enough to be worth the powder and shot of industrial effort and the few cases of malaria that do occur can be handled by existing medical facilities more economically. In Southern areas the picture is reversed for the bulk of 5,000,000 cases cannot get individual treatment, nor indeed is the average professional treatment they do get, either quantitatively or qualitatively, much different from the well designed remote controlled "Chill Tonic" taken according to their simple directions, for the hospital and clinic formulae are very similar, and all tend to follow the recommendations of the League of Nations on quinine dosage. After ten years experience living in a malarious area I have come to the conclusion that more benefit is derived from the broad use of quinine or atabrine than by the sole intervention of a very limited medical service. Of course in towns the situation may be reversed, just as in the mountains. The same type of situation exists in regards to many widespread infestations, especially worms. In some areas in which exist well designed sanitary facilities and quantitatively good medical service this problem is small. Others are completely unprotected and very heavily infested and the available medical service is a feeble weapon with which to attack a giant.

Clearly in the design of remote controlled remedies attention must be paid to these matters for what might be a highly valuable agent in one country, or state, or district, might be not only useless in another, but by

(*Continued on page 127*)

A Report from Grasse on Essential Oils and the French Perfume Industry

By BENSON STORFER*

AFTER spending some time with the various producers and distillers located in Grasse, France, I find no room for optimism for the next year or two. The demand will be great and the supply of natural raw materials derived from plants and flowers cultivated in the Grasse region will be scarce during the 1945-46 season for the following reasons:—

For the last four years the cultivation of perfume flowers and plants has been mostly replaced by cultivation of vegetables—peas, beans, leek, etc.,—which brought a higher price to the farmer and a sure sale, and incidentally, also prevented the Germans from obtaining floral essential oils. Now, the farmer has to put his soil in shape to resume cultivation of flowers, but it is a long and tedious job (especially in the case of Jasmin which takes about four years to grow its first blossoms) and he is handicapped by the lack of fertilizers as well. Then, too, the rolling stock and the lack of workers skilled in the art of flower cultivation is a great problem as most of the latter were in the army or deported or prisoners of war. Replacing these men is difficult in spite of the recent return of about one million French prisoners and deportees and to train new men will take quite some time. Another factor is the lack of agricultural machinery, nothing having been replaced since 1940.

Moreover, the year 1945 started with a severe drought. The results on the crops will be approximately the following:

Jasmin Absolute about half prewar at about ten times prewar costs—Roses recently picked will yield about half the normal crop—Fleurs d'Oranger (Orange Blossoms) will yield about two-thirds of the normal amount—and as for the other naturals originating in Grasse production will be one-quarter to one-half of prewar yields.

The table on the opposite page will give an idea as to prewar results and present expectations based on estimates as of June 1945.

The process of obtaining oil from the flowers has its problems, too, and very grave ones. The lack of coal is the most important. Factories are at present employing all kinds of materials for combustion—coal of poor quality, fruit pits, wood and all sorts of refuse.

The lack of solvents and fats is serious and the use of gasoline in the absence of petroleum-ether as a solvent has affected the Jasmin Absolute and other materials. A shortage of water due to the abnormal drought this year has added to their troubles by the rationing of water needed in the process of distillation.

The replacement of worn out manufacturing equipment is also a drawback due to the lack of copper, tin, rubber and laboratory glassware, with the result that very often the picked flowers are brought to the factories and left there to spoil because the equipment necessary to extract the oil is not in operating condition.

For the time being, the main factor in high prices is the high cost of labor—as the cost of picking flowers is the base on which all prices of absolutes are figured. Since the war, French Industry is geared to a better standard of living for its workers, considerably increasing their salaries to meet the present and probable future high cost of living, because up to 1939 the Grasse worker's standard of living was very low. For

*President, Parfums Corday, Inc.

example, before the war the flower pickers received about 8 francs per kilo of flowers while now they receive as high as 55 francs per kilo. Then too, containers along with all other commodities are scarce and perhaps five times as high as prewar.

Little by little these troubles will come to an end—perhaps within a year or two. But in the meantime there is a pent-up demand for essential oils. Once the Grasse industry gets started, it may supply the demand which will persist in spite of the very high prices for these products which are bound to stay high for several years. Of course, when things are normal again in Italy, Palestine, Algeria and Egypt and as soon as means of transportation will be re-established, their added production will naturally bring down the cost.

As for conditions in Paris, containers are the crux of the situation right now. The bottle industry is at a stand-still (witness the fact that a Parisienne must bring an original empty bottle to the stores before being able to obtain her favorite perfume). However, exceptions are being made for G.I.s—but some of the important fragrances are available in limited quantities only. Lack of coal and the effects of war and the German occupation on skillful workers have prevented resumption of glass manufacturing. Assuming that some production may possibly start this fall, it will be resumed on a small scale and will take perhaps a year or two to regain its pre-war stride. At present new prices are being quoted four or five times as high as 1939, making it well nigh impossible to export what little they expect to manufacture in the coming months, especially to the United States, what with the dollar at 50 francs.

Now as to boxes and other paper containers and labels. Paper and paper board are not to be found except in the "marché noir" or black market at tremendously inflated prices, making it well nigh impossible to produce boxes or labels in quantity at any marketable or usable price. (Incidentally almost everything from butter to buttons is scarce and obtainable only in the black market.) The situation is serious for our industry and unless the franc is revaluated to a minimum of 150 or 200 to the dollar, it will be almost impossible for France to resume its exports. It will also be necessary to eliminate the black market and affect an internal economic deflation with a concomitant reduction in the cost of living which today is unbearable and unconscionable for the morale and well being of the French people. These measures will help to solve the immediate problems of inflationary costs but the lack of coal and transportation will handicap the French for quite some time. Pre-war France consumed about 75 million tons of coal per annum of which about half was imported. It can now expect only a small proportion from England and the United States and will probably be short some 25 or 30 million tons this year so that the coming winter will be another tough one for both the home and the factory.

In conclusion, we cannot be optimistic about the French Perfume and Essential Oil industries until months after the end of the Japanese war when Far Eastern products which comprise perhaps 60% of French formulations will again become available for reprocessing in France and after the French economy will have changed completely from what it is today. Let's hope this day may not be unduly delayed.

Comparison of Pre-war and 1945 Crop Estimates

	Pre-war Crops					*1945 Crops*				
	Flowers	*Essential Oils Distilled*				*Flowers*	*Essential Oils Distilled*			
	Kilos	*From These Flowers*				*Kilos*	*From These Flowers*			
Cassie	10,000	40	K°	Concrete or		3,000	12	K°	Concrete or	
		16	K	Absolu			5	K	Absolu	
Genet	20,000	10	K	Absolu		10,000	5	K	Absolu	
Jasmin	900,000	2700	K	Concrete or		500,000	1500	K	Concrete or	
		1350	K	Absolu			750	K	Absolu	
Jonquille	15,000	30	K	Concrete or		6,000	12	K	Concrete or	
		15	K	Absolu			6	K	Absolu	
Mimosa	50,000	95	K	Absolu		2,000	38	K	Absolu	
Narcisse	50,000	25	K	Absolu		20,000	10	K	Absolu	
Oeillet	50,000	6	K	Absolu		30,000	4	K	Absolu	
Fleurs	1,500,000	1100	K	Neroli or		1,000,000	900	K	Neroli or	
d'Oranger		400	K	Abs. Oranger			100	K	Abs.Oranger	
Roses	700,000	1400	K	Concrete or		375,000	750	K	Concrete or	
		850	K	Absolu			450	K	Absolu	
Tubereuses	40,000	200	K	Absolu de Pommade or		6,000	Figure not available			
		3½	K	Absolu Parfum Pur						
Violettes Fleurs	20,000	3	K	Absolu		3,000	1	K	Absolu	
Violettes Feuilles	100,000	60	K	Absolu		10,000	6	K	Absolu	
Mousses		?					?			

Dome-type driers in which frozen liquid penicillin is reduced to a dry powder at Wyeth, Inc.

Penicillin Ointments and Creams

By M. A. LESSER

UNDER war time pressure, information concerning therapy with penicillin has attained almost phenomenal growth. Early in the history of this potent anti-bacterial came the realization that it was hardly necessary to saturate the whole body with penicillin in order to obtain purely local action. Interest naturally turned to the use of locally effective preparations like penicillin solutions, powders, impregnated bandages, and particularly to the employment of ointment and cream bases.

Even under the rigid controls which limited penicillin chiefly to parenteral therapy, considerable information has been gathered concerning a variety of ointments, creams and other bases suitable as vehicles for this drug. Moreover, there is interesting evidence that in the hands of the general practitioner at least, penicillin will probably find its greatest utility in the form of appropriate ointments or the like. Thus, a survey made in England three months after penicillin was made available for civilian use led May[1] to the conclusion that the general practitioner, that is the "family doctor", will use penicillin creams locally more often than any other preparation of the substance. He noted that the number of patients needing systemic treatment was smaller than had been anticipated. Whether the same condition will prevail in the United

States, now that penicillin is fully available in this country remains to be seen. However, there is no question of the considerable interest in local penicillin therapy here; a fact attested by the number of reports on such application in the American literature.

There are many definite advantages accruing from the use of penicillin creams and ointments other than the elimination of painful injections and the need for trained hands to administer the drug parenterally. Of great importance, even in these days of comparatively plentiful supplies, is the observation that much smaller quantities of penicillin are required for local treatment than when given intravenously or intramuscularly.[3] Aside from considerations of economy, local applications permit a greater concentration of penicillin at the site of the infection and the effectiveness of a single dose may be prolonged for as much as twenty-four hours. Responses are also more prompt after local administration than after parenteral therapy.[3]

In contrast the topical application of aqueous solutions of penicillin, the employment of suitable creams holds the drug in contact with the tissues longer than is possible with a watery preparation.[4] A very important consideration is the fact that, with adequate instructions, patients can carry out treatment of skin and other conditions with penicillin creams and ointments in their own homes.

Penicillin creams and ointments already have had quite wide and highly successful clinical use.[5] Effective in the treatment of infected wounds and burns,[4,6] Bodenham[7] found that a penicillin cream gave better and more consistently satisfactory results than did a penicillin-sulfanilamide powder in a magnesium oxide base. With local administration of penicillin, results are fairly prompt; the earliest signs of progress being subsidence of pain, redness, swelling and induration, the disappearance of pus, and the return of function. In surface wounds and burns, penicillin applications for five days eliminate streptococci and staphylococci, accelerate healing and promote the success of skin grafts. However, the final result in well-established infections depends upon continuing treatment until tests show that bacterial growth has been arrested. If the number of bacteria do not diminish after a week of treatment, surgical intervention to get better access is indicated.[3]

Of interest in this connection is Lyons'[8] observation that the nature of the wound is the chief factor in the selection of the method or vehicle for local application. He feels that local therapy is almost a necessary supplement to systemic therapy and is not so effective alone as when combined with systemic treatment.

Penicillin creams and ointments have proved their worth in the treatment of a number of skin diseases, especially pyogenic dermatoses.[3] Templeton and his associates,[9] after quite an extensive study, concluded that penicillin is a valuable therapeutic agent in the local treatment of the pyogenic infections of the skin. Concurrently, Cohen and Pfaff[10] expressed the opinion that the use of penicillin ointment is warranted in treating pyodermas and that its action in the therapy of so-called tropical ulcer can almost be classified as specific. However, they felt that the use of penicillin ointment in cases of sycosis barbae and the combined use of ointment and injection in treating recalcitrant eruptions of the hands and feet required further study.

Because a penicillin ointment had proved effective in the treatment of a variety of pyodermas, Johnson[11] was able to say that, "the rapid bacteriostatic action places the ointment in a unique position as a valuable adjunct to the dermatologic therapeutic armamentarium."

Applied locally, penicillin has also been used effectively in the treatment of external infections of the eyes and eyelids. Crawford and King,[12] for example, employed an ointment containing 200 units of penicillin per gram in treating a patient with corneal ulcer. Applied every four hours, use of the ointment resulted in sterile conjunctival swabs within a few days.

In his study of penicillin therapy in ocular infections, Bellows[13] not only employed penicillin drops for local therapy, but also determined the comparative values of a penicillin ointment, a cream, and a jelly. He found that the local application of penicillin leads to high concentrations of the drug in the tissues of the anterior segment of the eyeball. Local application in conjunction with systemic therapy may increase the concentration of the drug in the posterior segment and thus prevent the organisms from becoming penicillin-resistant. He is of the view that penicillin may replace silver nitrate in the prophylaxis of gonorrheal ophthalmia in the newborn.

Over two years ago, the Floreys[14] pointed out that, "In essence, the problem of using penicillin locally is that of devising some means to apply a very soluble and diffusible substance so that a bacteriostatic concentration is constantly maintained at every point where there are infecting organisms."

With certain demonstrable advantages over both aqueous solutions and powders, the indications are that penicillin ointments or creams will find even greater use upon the solution of two basic problems—namely, the selection of the most suitable base and the development of more stable products. From the studies of Templeton and his coworkers,[19] it would appear that the two problems are closely interwoven. Tests on a series of different type vehicles indicate that penicillin becomes more active, at least *in vitro*, as the water content of the ointment base increases. Conversely, this very factor, the addition of water, seems to make the ointments less stable.

Much laboratory and clinical work must be done before the different penicillin bases can be fully evaluated. In the meantime the most pressing problem is the need for increasing the period over which the penicillin retains its potency when incorporated in an ointment or other base. As things stand, penicillin preparations have a comparatively short shelf life and their manufacture is more or less an extemporaneous procedure.

(*Continued on page 122*)

Cosmetics as Insect Repellents

By E. G. THOMSSEN, Ph.D., Consulting Chemist

THE use of insect repellents in cosmetics is by no means new. In past years various substances have been added to lotions, powders and creams for the purpose of repelling, mainly flying insects. Unfortunately much of the work on repelling was done in a haphazard way. As a result many of the finished preparations were not effective and it did not take the consumer long to realize that they were not of much merit. As a matter of fact, some of the products used to repel insects were absolutely ineffective. In some cases certain flies actually laid their eggs in materials sprayed by them as repellents. A general approach to the problem took on the pattern that certain odoriferous products, especially essential oils, tarry substances and aromatic chemicals which often were offensive to man, were also disliked by insects and hence drove them away. It rather makes one smile when one thinks of the agonies one's sense of smell suffered through stimulation with concoctions made from oil of citronella, still residues, fish oils and tar oils. The disciples of Izaak Walton particularly had and still have their favorite ill-smelling formulas to smear over their arms, legs and faces as they brave the hordes of mosquitoes which invade their favorite angling spots. Numerous substances with no or slight insect repellent properties have been sold as ingredients of toiletries and other preparations. In many cases they were present in such small quantity that even if they did have repelling properties, they were of very temporary or short duration. Some of the favored chemicals of this sort included kerosene often deodorized, oil of cedar leaf, menthol, oil of cassia, oil of citronella, oils of lavender and spike lavender, oil of sandalwood, terpinyl acetate, naphthalene, oil of cade, pine oil, oil of pine tar, creosote oils, fish oils, thymol, oil of camphor, camphor, citronella oil isolates, oil of mirbane, ammonia, and many others. At times, these substances were compounded into toiletries without the precaution of determining whether they produced toxic or irritating effects on the skin. In still other cases they were incorporated with soap products or other substances, with which there was an incompatability.

Prior to the outbreak of the war certain of the insecticide manufacturers, especially liquid insecticide or fly spray producers, as well as state and government laboratories, undertook to investigate insect repellents more scientifically. The main object of these investigations was to prevent flying insects from pestering cattle, to repel crawling insects and in certain cases to repel or attract insects so they might be better controlled on agricultural crops. These investigations resulted in the discovery of more effective repellents though there still was a tendency to exaggerate the repelling properties of certain substances beyond that possessed by them. One of the results of these investigations was the discovery that geraniol, at times used to keep away mosquitoes in cosmetics, attracted the Japanese beetle, which had become so troublesome a pest in the east, and permitted the destruction of many of them through baiting of specially constructed traps. There were also found more effective fly repellents which were incorporated in liquid insecticides and also into cosmetics. Some of these repellents could not readily be adapted for direct application to the skin because they were toxic to man and beasts as well as insects.

When we entered the war against Japan and had to send our men to battle into new world areas, where insects were more deadly than our enemies, these investigations to find proper repellents, took on great emergency. It became not only important to kill insects, but also important to repel them. In certain cases, the repelling of them was very vital because after being contacted with improved insecticides, the insects continued to live long enough to annoy and to spread disease through bites from vectors. Even though the much publicized DDT was found to be an effective insect killer in many cases, and filled into an important gap left by the scarcity of insecticides like rotenone products and pyretheum, its slow killing action caused concern in this respect. In the emergency thus created, the U. S. Bureau of Entomology and Plant Quarantine feverishly carried on investigations at Orlando, Florida. This time the repellents that were recommended for use had to be as effective and lasting as possible. They had to be non-irritating and non-toxic when applied to or absorbed through the skin. Many substances, while they repel insects cannot meet the non-irritating and non-toxic requirements. This caused them to be discarded.

Another necessity was they could not possess too strong an odor so that our fighting men could not be readily discovered even at night, through the sense of smell. It was also important that the repellent should

be lasting, should be made readily and be suitable to apply to clothing. A screening method for testing products has been developed by the use of mosquitoes to eliminate products having short time repellent properties. The repellent is applied directly to the host's (man's) arm and exposed under standardized conditions to both the malaria type and yellow fever type of mosquitoes in cages to determine its efficacy. Substances which repel the malarial mosquito for two hours and the yellow fever bearing mosquito for three hours are investigated further. It is reported that close to 15,000 substances have been tested in these laboratories for their efficacy for insect control in a very thorough manner. As a result of these tests not only have good insect repellents been discovered but also ovicides, scabacides and similar pest control substances have been developed. Of military necessity, much of the results of these investigations are not published as yet. Only now and then are the results of some phases of the work reported. When the full story is told it will be a high tribute to the men who have carried out the investigations so quietly and modestly.

Out of the many substances investigated only a comparatively few of them are efficacious as repellents. Up to this time combinations of Dimethyl Phthalate, Indolone and Rutgers 612 used in combinations of 6-2-2 or 1-1-1 have been adopted by the armed forces as a good protection against repelling mosquitoes, flies, chiggers, immature stages of ticks, sand flies, buffalo gnats and other insects. All of these repellents were developed by private research laboratories. Recently the government took out a patent* to cover the use of combinations of dimethyl phthalate with various proportions of butyl mesityl oxalate and 2-ethyl-1, 3-hexanediol. Other substances both liquids and solids are being found to be effective repellents on the skin and on clothing. They will find future civilian use.

What the future trend of insect repellent toiletries will be is not predictable. It is certain, however, that when the war is over the use of insect repellents will assume an important place among civilian products. In cosmetics the repelling of flying insects will be the more definite goal. Mosquitoes will probably receive the most attention. The methods worked out for testing the repellency does not now include our common mosquito as this one is not of great concern in war areas. It is quite well understood, however, that repellents for Aedes aegypti (yellow fever mosquito) will also repel the widely distributed common mosquito in the U. S. A.

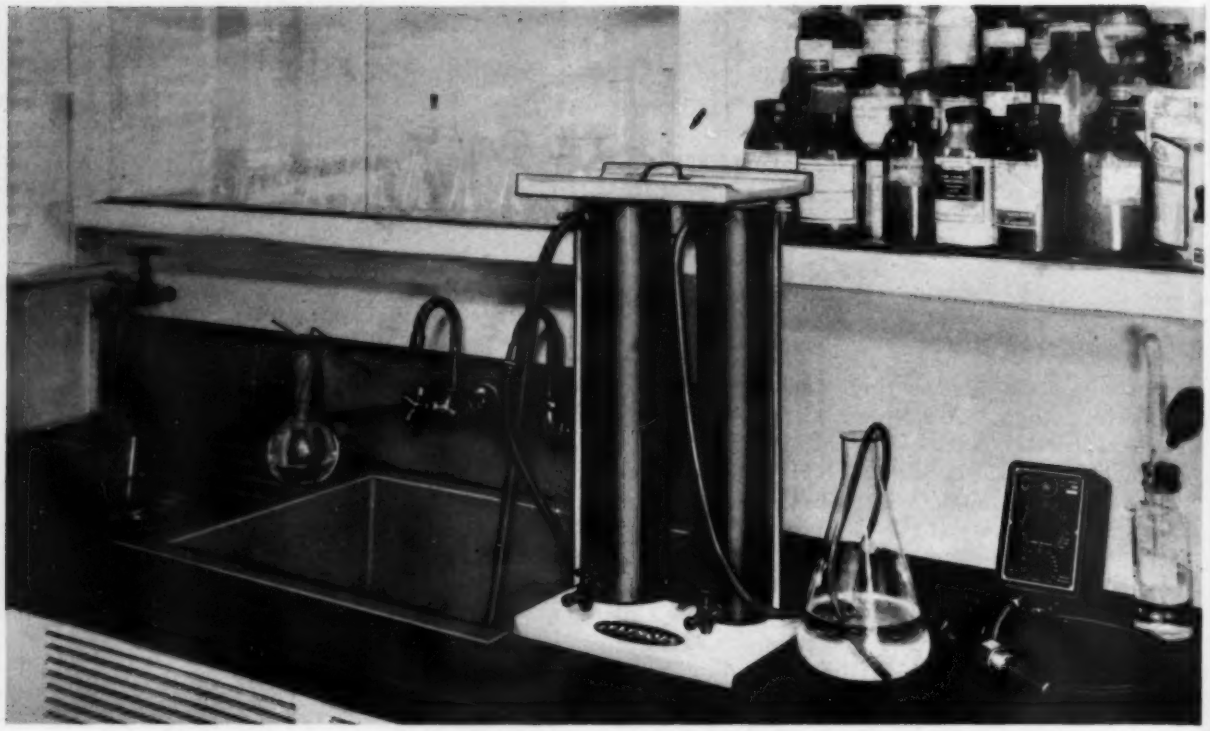
WIDE WORLD

It is an indication of the trend that already certain vehicles to carry both repellents and ovicides are the same as those used in some toilet articles. In order, however, to be an effective insect repellent cosmetic the concentration of active materials or ingredients must be increased over that used in the past. Lotions will probably be the most common form of insect repelling toiletries. These afford more latitude in incorporating the best known liquid repellents in proper concentration at this time. In the case of solid repellents, toilet powders and creams will be more adaptable though at this time it is not known what solids are being generally used as repellents. In the ovicide field which is more limited in scope and which is really not a true cosmetic substance like DDT, benzyl benzoate and benzocaine are being used.

In any event, out of the findings of this government laboratory during the war emergency the insect repelling cosmetics will be more efficacious than in the past. Then, too, their discoveries will be public property. It is very questionable whether makers of high grade toilet articles will desire to enter this field. Makers of insecticides will undoubtedly be very active therein and consider it their rightful area of operations. It will be interesting to watch from which source consumers most readily will accept the products. A point

(*Continued on page 122*)

*B. V. Travis & H. A. Jones, to Sec. of Agri. U.S.A. Patent No. 2,356,801.



While Mr. Kunnas' experience has been with one particular type of de-ionizing unit, there are types of units such as the one shown above. This unit has had wide successful application for a long period of time. It is manufactured by Illinois Water Treatment Company, Rockford, Ill.

WATER DE-IONIZATION

By ERIC KUNNAS, Jr.*

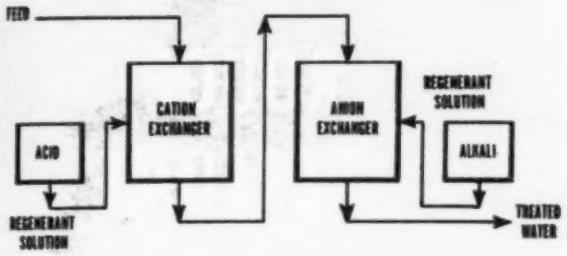
THE PROBLEM of water purification or treatment is important in the chemical industry in general and of particular importance in the medical and pharmaceutical field. The purpose of water purification hardly needs elaboration. When the chemicals used in processing react with such dissolved matter as iron, chlorides, etc., then complete removal of such matter is mandatory. Ordinary filtration methods such as the use of porous stone filters are not satisfactory. Such methods remove suspended matter but do not remove dissolved impurities. Distillation is an effective but expensive way of water purification. De-ionization, one of the newest methods of water purification, is apparently solving the problem both effectively and economically. Although the principle may also be designated as "demineralization" or "desalting" of water, the expression "de-ionization" seems to be preferable. Water so treated may be designated as "D-I Water."

*Holland-Rantos Company, Inc., New York City

The theory and chemistry of de-ionization is appropriately discussed elsewhere.[1, 2, 3, 4] The action taking place when water is passed through the cells may be demonstrated by the reactions given in Table 1. Generally speaking, the operation of the 12″ Dorrco Exchanger Cell Unit is relatively simple and is well illustrated by the flowsheet. This is a self-contained unit (photo). It occupies a floor area of 44″ x 44″ and consists of two 12″diameter cells approximately 7′ high—a cation cell containing a 3′ bed of Amberlite IR-100, and an anion cell containing a 3′ bed of Amberlite IR-4. The quality of the effluent is indicated and controlled by means of a Solu-Bridge—an electronic device which utilizes a modification of the Wheatstone bridge, calibrated on the basis of electrical conductivity to read in "ppm as NaCl." Rotameters indicate the rate of flow. For efficient operation the rate of flow should not exceed 4.0 gpm for the 12″ unit. The capacity, therefore, is 240 gph. Tests show that a minimum rate of flow of about 10 gph is satisfactory.

Rates of flow below this approximate the same conditions as zero flow and result in a tendency for a slight pick-up of ions. After several regenerations, it is claimed by the manufacturer, this tendency will disappear.

Usually, treated water is run into storage tanks and treatment is continuous. It has, however, been found practical to operate the system on an intermittent basis. Theoretically, as indicated above, there is a tendency for a reverse action, whereby the beds will throw back, causing the water at rest in the cells to have a slightly higher salt content. Experience indicates that by-passing this water for a few minutes (20-30 gals.), the quality of the water is quickly restored. It is obvious that continuous flow is the most practical. Intermittent operation is possible, however, and the water even with slightly higher salt content may be used for the washing and rinsing of equipment prior to drawing water for production.



DIAGRAMMATIC FLOWSHEET—COMPLETE DE-IONIZATION

For water of equal quality, de-ionization is considerably less expensive than distillation. To regenerate the 12" Dorrco D-I System, 5.1 lbs. of soda ash and 10.1 lbs. of sulphuric acid, 66° Be, are used at a cost of 2½¢ and 3¢ per lb. each respectively. The total material cost therefore is 43¢ per regeneration. Operating experience indicates that regeneration is necessary approximately every 7500 gallons. Thus the operating cost per 1000 gallons is 5.7¢. The total time required for regeneration of the unit is about four man-hours. With a little instruction, an intelligent individual lacking technical training, can be taught to carry out the operations.

It was found, for convenience in handling (since frequent regeneration was not necessary), that bottle acid was still reasonably economical at a cost of 12¢ per lb. for H_2SO_4. The total cost is only $1.34 or 17.9¢ per 1000 gallons. These figures compare favorably with operating costs of other installations.[5]

The initial cost of equipment is primarily determined by the quality and quantity of the water to be treated. Installation is simple and requires only four minor connections—a 110 volt AC line is required for the operation of the Solu-Bridge; a raw water connection; a waste-line connection; and finally a line for delivery of the effluent, either to a storage tank or directly to the kettles or equipment. There is virtually no maintenance cost. Theoretical investigations by the manufacturer indicates that the life of the Amberlites is infinite. A small quantity is lost by attrition during backwash—this may amount to as much as 2%-3% per year.

Analyses of De-Ionized Water

	Results[1] in ppm as $CaCO_3$ Raw Water	*De-ionized Water*
Calcium (CA^{++})	22	0.9
Magnesium (Mg^{++})	10	0.03
Sodium (NA^{+})	17	1.8
Total Cations	49	2.73*
Sulfates (SO_4^{--})	17	0.8
Chlorides (Cl^{-})	3	0.01
Bicarbonate (HCO_3^{-})	29	1.92
Total Anions	49	2.73*

Specific Resistance 25°C – 240,000 ohms

Total Electrolytes based on conductivity – 1.8 ppm (as $CaCO_3$)*

Soap Hardness equals zero

pH after removing CO_2 = 7.1

*It should be understood that total electrolytes based on conductivity is by far the more accurate. It is difficult to make an accurate analysis of the trace amounts in the deionized water.

Results[1] of Analysis According to the U. S. P. XII (Aqua Destillata)

Description—colorless, clear, without taste or odor

Dissolved solids—0.7 mg. residue in 100 cc.

Reaction—pH not less than 510—no red color with methyl red, no blue color with bromothymol blue

Chloride—no opalescence

Sulfate—no turbidity

Amonia—very faintly yellow

Calcium—no turbidity

Carbon dioxide—clear

Heavy metals—negative

Although no U. S. P. standards have at this time been established for de-ionized water, analysis against standards set for distilled water indicates that D-I water successfully passes the tests given and may be considered as equal to U. S. P. XII. This agrees with results of others.[6]

Conclusions

It has been shown that the de-ionization of water for production purposes is both effective and economical.

1. Intermittent operation is feasible, and is both effective and economical.
2. Operation and regeneration is simple.
3. The cost of treating water is low—less than 6¢ per 1000 gallons.
4. The quality of D-I water may be considered equal to Aqua Destillata U. S. P. XII.

(Continued on page 133)

[1] Prominent Eastern Water Analysis Laboratory

[1] Flora Semen, Control Chemist, Holland-Rantos Company, Inc.

All Plastic
ROUGE,
PERFUME
and
MAKE-UP BOXES
ILLUSTRATIONS ACTUAL SIZE
WIRE OR WRITE
FOR SAMPLES
HARRY BRODER
AND ASSOCIATES
161 WEST 64th STREET
NEW YORK 23, N. Y.
TRafalgar 7-0092

Packaging and Selling

Counterfeit Perfumes

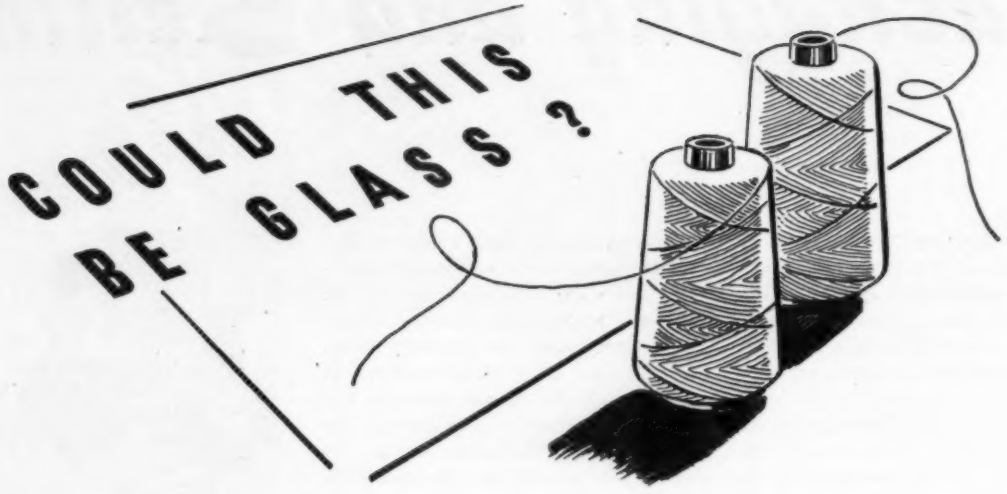
The business of selling spurious perfumes to uninformed buyers, is always a flourishing one. Under today's conditions, however, these perfume counterfeiting rings have grown to unprecedented size as indicated by this story of the breaking up of a large Florida operation in counterfeit perfumes. The story carries its own implicit warning against purchasing any well-known brands of perfumes from any but well-known and authorized sources. Any offer of bulk perfumes, especially of standard brands, in quantity from itinerant salesmen for immediate delivery for cash (and generally without an identifiable receipt) should be looked upon with suspicion, for the identification of fake perfumes which are distinguished only by their trademarks is difficult for the inexperienced buyer.

The successive steps which resulted in the exposure of the Florida counterfeit ring are described by G. H. Shepherd, Schiaparelli representative in that territory, in the following words: "On or about May 4th a friend in Fort Lauderdale advised me that she had purchased a bottle of Shocking perfume while on Miami Beach. Naturally, I was interested and asked her the name of the store. At once I sensed something wrong—made an investigation of this store and found they had approximately 700 bottles of counterfeit perfume. These perfumes were advertised on an attractive sign in their window.

"I bought, from the store that day, a bottle of Toujours Moi and obtained a sales check made out for one ounce of Toujours Moi which completely ignored the charging of the 20 per cent excise tax. I proceeded to the Custom's Agency Office, Miami Beach, where I contacted Custom Agents Paul Green and Jimmy Wallace, who made the investigation from the angle of the sign describing the perfumes as imports. They naturally were just counterfeit goods, and no trouble was encountered in having this store discontinue their sale.

"A few days later, Mr. Paul Green called me and asked that I come to his office to talk with him with regard to something that, in his opinion, was important. He showed me thirteen eight-ounce bottles of perfume packaged so attractively that a layman could easily believe they were genuine. After closely looking over these bottles, I advised the men that they were counterfeit. At this time, Mr. Wallace was holding a report from one of their agents, concerning a woman in Jacksonville who was bragging that she had purchased an imported bottle of Chanel No. 5 at a ridiculously low price—the bottle was eight ounces. Mr. Wallace considered this so important that he made a special trip to Jacksonville and luckily got the name of the seller. Upon finding that the merchandise was

Scene of the operations of the Florida counterfeit perfume ring.
Both photos courtesy Miami Daily News.



Most of us think of glass as a brittle material. For 4000 years that was the only form of glass we knew. Recently, research laboratories have produced many new and amazing types of glass. Today there is glass which can be twisted into yarn, woven like silk, made into cloth. There is also glass which can be bent like rubber, glass that floats, glass that bounces, glass that can be sawed and nailed. Seemingly there are no limits to the possibilities of glass.

Manufacturing these newer forms of glass is a highly specialized field. So, too, is the manufacture of fine glass containers . . . a field in which Carr-Lowrey has specialized since 1889. That is why Carr-Lowrey containers have long received an A-1 rating among men who know glass best.

CARR-LOWREY GLASS CO.

Factory and Main Office: Baltimore, Md.
New York Office: 500 Fifth Ave.
Chicago Office: 1502 Merchandise Mart

The Cosmetic Trend

The principal trouble with analytical statistics is that they generally come too late to be of any real use for planning. However, as buyers are studying 1944 sales breakdowns for their effect upon long range trends there is a great deal in respect to their toilet goods counters that encourages them to look with more confidence into the future than they did earlier in the year. Current reports are still fragmentary and do not cover all of the nation. Yet, what is known, is surprisingly good and forebodes well for the reconversion period and after. As far as toilet goods are concerned midwestern stores seem to have done even better than the East and Far-West.

What makes buyers rather enthusiastic about their toilet goods success during the war is the realization that most of the war business was obtained by a rise in the demand for cosmetics and not by more energetic selling. In fact, most buyers are only too conscious that their counter-efforts fell badly behind prewar days during the last four years, although it is generally acknowledged that the enterprising advertising policies of the industry and well-directed store advertising has come to the aid of understaffed toilet goods counters.

However, it is argued correctly, by some buyers at least, that if they have been able to raise their volume in spite of many handicaps during the war they, certainly, should do at least equally well from now on with the prospect of assembling better personnel and improving industrial conditions.

Talking of the reconversion problems of the most immediate future it is generally pointed out that the counters themselves have no difficulties in sight. There may be changes behind the counters, as older women are going back to their domestic duties, but managers hope that they will be able to assemble a larger proportion of full-time workers. However, changes are expected amongst the customers.

The impression is that the counters will have to be prepared for a general reshuffling of their clientele. During the war shortages have made many customers shop around in a number of stores which has had an effect upon toilet goods counters, often lowering their standards but just as frequently forcing them to carry merchandise above their usual price and quality standards. As general assortments in accessories, home furnishings etc. improve during reconversion this fluctuating mass of customers can be expected to return again to its pre-war shopping haunts. Toilet goods counters will again become more representative of the location of the store and the dominating character of their clientele. This process may be a slow one, but manufacturers will notice its beginning in the not too distant future.

Another problem under consideration is the uncertainty of the probable start of the Christmas gift season. Last year November and December divided the honors almost equally in some stores. This year, gift buying is expected to start even earlier. October will rise in importance. Manufacturers who have failed to take care of this situation better get busy.

counterfeit, the latter immediately turned Federal evidence and gave Mr. Wallace a full story of his having purchased several thousand dollars worth from a peddler by the name of Ted Marks.

"Mr. Wallace also learned that he had received several express shipments that were made from the Rail Express Agency, Miami, through the mails and, through this Express Agency lead, he was able to discover the source of supply. This was located at 1204 West Street, Miami Beach, in a roomed-off portion of a garage.

"On May first, I made one of my regular trips to Tampa, where I found approximately $700 worth of this merchandise in Haber and Company store, Tampa. Also, approximately $1400 worth of this merchandise in Webb's Cut Rate Store in St. Petersburg. On Friday, May 4th, I met with the Custom Agents who, at that time, knew the exact location of these men.

"By this time legal counsel had been brought into the case and it was decided that rather than merely get a small-time arrest for obtaining money under false pretenses or some other small time charge where they would draw a small fine and be in business somewhere else within a week, we would, at this time, work on mail fraud charges, excise tax charges, and income tax charges.

"From reliable sources, such as Custom Agents, Federal Revenue Agents, etc., it was the concensus of opinion that these men did a business of around $400,000. Also gathered as evidence were receipts from bottle manufacturers, label printing establishments, and perfumers' supply houses. Also full question and answer testimony of Ted Marks and Robert Goldman.

"Haber and Company, in Tampa, and Webb's Cut Rate Drug Store in St. Petersburg, destroyed all labels from the merchandise which they had purchased. The packaging on this merchandise was the best imitation I have ever seen.'

That the packaging was, in truth, a good counterfeit is illustrated by the accompanying photograph. It is not alleged that any of the companies mentioned had any information as to the spurious nature of the merchandise at the time of the purchase and this story is told merely to apprise other possible purchasers always to be sure of the source of their supplies. Inasmuch as the sellers of the spurious merchandise all operate in a similar manner, the caution is repeated that offers of large quantities of perfumes of standard brands in bulk or regular packages, should not be entertained unless coming from well-known and reputable business houses.

The fakers who sell these spurious perfumes usually travel in their own cars, make spot deliveries, for which they receive cash and do not offer receipts for the merchandise. In the rare cases where receipts are given the name of the seller is fictitious and not traceable and the address is often equally factitious. Such stocks may be immediately confiscated upon the application of the manufacturers of the genuine goods, and wherever such offers are made, the trade should immediately communicate with the manufacturers whose goods have been offered.

That the warnings contained in this article are necessary is proven by the fact that in the operation of the latest ring above mentioned, note books were found showing considerable correspondence and sales to prominent and important people, such as represent-

LIMESTONE—

serves a double purpose in glassmaking

BESIDES making finished glass harder and more durable, limestone also affects the rate at which the melted glass "sets up" or solidifies. The right amount of limestone makes glass form well and faithfully reproduce the precise shape of the mold. Too much limestone makes glass "set up" so rapidly that it can't be worked at all!

Glassmakers have used limestone for centuries. Today they use it either finely ground or burned. Only during the last forty years, since automatic machinery replaced human glassblowers, have they had to carefully allow for the "setting up" problems it creates.

The hand glassblower didn't have to worry about this. If his glass tended to solidify before he had finished shaping it, he simply held it in a flame until it was soft enough to work again. But automatic machines can't manipulate glass like this.

So today, the modern glassmaker must exercise great care to use just the right amount of limestone—enough to make the glass "set up" in the mold, but not so much that it will solidify before it can faithfully reproduce the design of the mold.

Long experience and constant research have given Armstrong's glassmakers keen insight into the use of limestone. Their knowledge is just one more reason why Armstrong's Glass continues to enjoy an increasing reputation for top quality.

Send for your free copy of "Men and Glass." It contains additional interesting facts on the making of fine glass. Address Armstrong Cork Co., Glass and Closure Division, 3807 Prince Street, Lancaster, Pa.

ARMSTRONG'S GLASS

and

ARMSTRONG'S CLOSURES

Packaging Forum

By Josephine von Miklos

Again the word METAL looms large. When the news came out aluminum was going to be released for civilian production, almost everybody called everybody else up and began making voluminous plans for immediate production of beautiful metal packages. The only trouble with all this justifiable excitement is that most, or probably all metal fabricating plants are still on war production, that cut backs are only gradually setting in and that, to be honest, we don't really know just what to do with all that aluminum which is supposed to be poured out into the open market.

We had, on rare occasions, aluminum bottles and other containers before the war. There is every reason to feel that a great deal more could be done with aluminum packages. But where are the fabricators? Too, is the aluminum industry very much interested in the cosmetic and drug industry? Can we use enough aluminum, say, for creams and lotions and colognes, etc., to warrant the setting up of new tools and the devising of new production methods? Can we afford special tool costs, or are we willing to do with a few shapes and share them among us? The answers to all these questions seem difficult to find, just now. We're all right I suppose, on caps for lipsticks; they have been used before, lipstick suppliers are set-up for them and as soon as they are allowed to stop making shells, they may be able to go back to lipsticks. But as of today . . . with the exception, of course, of the can people . . . that seems to be pretty much the whole story, and that isn't very much of a tale.

If a few of the more enterprising cosmetic manufacturers really decided to use aluminum or other light metal containers, and perhaps really got together with one or the other aluminum producing, and one or the other aluminum fabrication company, and decided on specifications, as they did decide on specifications for glass, at one time, then, perhaps, we could be looking forward to the introduction of an entirely new type of container into our field.

There is, of course, a great deal to be said in favor of all sorts of aluminum packages for the era to come. If no other factor, the ever greater increase of airplane travel will undoubtedly play a very important role. Light weight and unbreakability will be enormously important. It may well come to pass that some cosmetic people will package some of their products especially for airplane travel, and wouldn't it be wonderful to have nice, flat, light weight cream jars along when we circle the globe? Too, travel flasks for emulsions and colognes should be thought of, and surely boxes and kits which will give the weekender or the globetrotter the compactly designed and laid-out service so very much needed.

We will be able to learn a great deal, when the war is over, from the way the quartermaster has designed and used kits. This war has taught us a great deal in "space engineering;" it seems that the combination of this experience and the new knowledge about light metals should go far in providing this industry with new approaches in merchandising and designing.

atives in Congress, officeholders, society people, and others. Naturally, sales to the public of this spurious merchandise is a blow at the whole perfume industry.

Single Dose in Polythene

The "Chemist & Druggist" of London describes an interesting development in single-dose strip containers of transparent plastic. It says that, 'Mepacrine is now being packed in polythene for use by British and Allied troops in the jungles and swamps of the Far East. The drug was produced by Imperial Chemical Industried, Ltd., to replace quinine, but it was found that tablets of the compound dissolved or deteriorated in the damp heat of tropical jungles, and a new method of packing had to be devised. Polythene, a flexible plastic that can be produced in thin, waterproof sheets which retain their flexibility through wide variations of temperature, was adopted. This plastic had never before been used as a packing material, but the most rigorous tests showed that it was unaffected by tropical heat and that mepacrine tablets wrapped in it could be left lying even in salt water for months and emerge as fresh as when they were packed. Two important problems were how to get each tablet into its individually-sealed compartment in the polythene ribbon and how many millions of tablets a week could be dealt with. Genatosan, Ltd., Loughborough, Leics, possessed suitable machinery which, after slight adaptations, could take a special grade of polythene film only $\frac{1}{250}$ in. thick. A strip of seven pockets (a week's supply) is issued to men on the Burma front; each day one pocket is torn off, leaving the rest safely protected from air, heat and moisture. The problem of ensuring adequate supplies of mapacrine for troops abroad has thus been solved."

Stock Simplification

Al Leffmann, cosmetic buyer at Loeb's, Lafayette, Ind., writes about that hardy perennial, stock simplification. We think it's a lost cause for even wartime shortages did not bring about enough simplification to put in your eye so we see no hope for it under competitive conditions of peacetime. But here's what he thinks about it.

"Last night after reading your latest issue I began pondering about post-war prospects in the cosmetic industry. Undoubtedly there are many stores like ours who were compelled to take on new treatment lines during the war in order to keep supplied with goods. Today, when we can see the light, I am wondering what to do, how to handle those who came to our rescue in our darkest day."

"The thought came to me, and I am speaking of make-up particularly, if it would not be possible to set up a board in the industry which would control distribution of shades It is evident that most lines carry too many shades of make-up and of course add new shades occasionally to keep in the limelight. Would it be possible to create a board which would limit each manufacturer to a certain number of shades and when a new shade is brought out to withdraw one from the regular line. This would certainly help retailers, keep our stocks down to where they belong, make selling a lot easier and stock control a real pleasure. This also applies to nail polishes and similar items, which today compel us to carry a much too large stock on hand."

"This idea may be just a dream which never comes true, but I thought it worth while mentioning it to you. We certainly can stand some adjustment along the line."

Cadet Sealskin, "The Invisible Waterproof Glove" has been introduced by Cadet Laboratories, Worcester, Mass. It is said that applied once daily it will form a durable invisible waterproof coating unaffected even by most acids and alkalis. It comes in six and twenty ounce jars and in one and six gallon drums.

Lead Tubes Again

We have a letter from Walter Carsch, a British manufacturer, who has for many years been marketing cosmetics on the continent. He describes some of his experiences in connection with the use of coated lead tubes which may be of interest.

"The use of tin-coated lead tubes for cosmetics causes a number of problems which have to be solved if damage and loss is to be prevented. This is not only a question of how much lead may be absorbed by the product without harm to the consumer, but just as much one of durability and appearance of the product.

"Most cosmetics packed in tubes are of white or light pink color. Very small quantities of lead are sufficient to turn this color into a dirty gray. Furthermore, the contact with lead disturbs the emulsion and within a short time water is rapidly expelled and the preparation deteriorates rapidly. How can this be prevented?"

"Let me say first that, however well the tin coating is applied, the product cannot be prevented altogether from getting into contact with the lead in one place or another.

"Through the handling of the tubes and especially through the folding up of the tube ends by machine pressure the thin tin layer gets little cracks and there the contents contacts the lead. This, however, is comparatively harmless as long as air cannot enter the tubes. In the presence of air the reaction of product with metal is greatly encouraged. The scarcely noticeable crack is quickly widened and the deterioration of the product begins. If the product contains free alkali the process of deterioration is quickened and the metal wall of the tube is gradually destroyed.

"For the above mentioned reasons it is of great importance that both ends of the tube be closed air-tight. This is easy with regard to the aperture, which the tube manufacturer can supply with a thin tin cover. To make the folded up end of the tube air-tight requires a special device. After leaving the machine the ends of the tube are dipped in a liquid which quickly dries leaving a thin colorless and air-tight film, which is practically invisible and in no way disturbs the appearance of the pack. I have used this device for shaving cream and the product kept better than in tin tubes without film. It naturally can be applied to advantage with any preparation, especially with tooth pastes, stearine creams, medicated creams, depilatories, etc.

"Where film cover is not applied other precautions should be taken for certain products. For tooth paste and depilatory cream I had a special lacquer cover on top of the thin coating. In this case special attention must be given to the following points:

"1. The lacquer must be odorless and colorless. Otherwise it will interfere with appearance, odor and flavor of the product. The colorless lacquer is no great problem but it might be difficult to get a perfectly odorless one. However, if the odor is not too pronounced it can be practically eliminated by storing the empty tubes in uncovered boxes in a warm, dry and well ventilated place for some time.

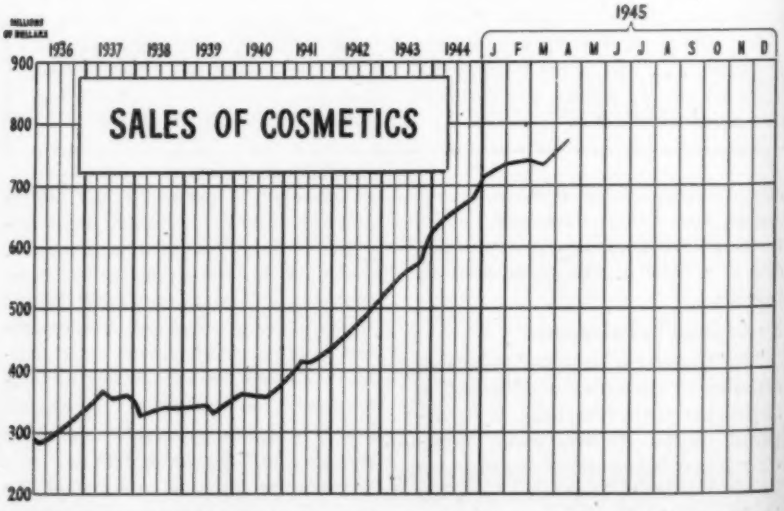
"2. The lacquer must not be soluble in the product, as otherwise it will soon disappear.

"3. The lacquer must adhere fast to the tin coating. Some products, especially those containing glycerine or its substitute, tend to loosen the whole lacquer layer from its metal wall. When the tube is used the lacquer coat is pushed forward towards the aperture and either clogs it or comes out in little unappetizing looking bits, which leads the user to believe that the product has deteriorated.

"4. The lacquer must possess a certain resilience. Otherwise particles will break off when the tube is rolled up with similar results as mentioned under 3.

Preparations containing a higher percentage of fat or oil as for instance night and cleansing creams do not require any special precautions as they form a thin fat layer on the tin coating, separating product and metal sufficiently.

"The knowledge of all these facts will not save the manufacturer from making his own trials with his products, and from keeping them under observation. But he will know which object he must have in view and in which direction he has to proceed. This will save him much valuable time and unpleasant and costly surprises."



Retail sales of cosmetics for the twelve months ended with April 1945 totaled $771,441,815. This compares with $733,900,000 for the twelve-month period ended with March 1945 and with $654,399,000 for the twelve months ended with April 1944.

"SILENT SALESMEN?"

NOT THESE! COATED LITHWITE MAKES 'EM TALK!

"LOOK HERE, LADY!"

"HEY MISTER....LOOKY"

"SEE, LADY, I'M JUST WHAT YOU NEED"

"PST-T...LOOK HERE"

This revolutionary paperboard gives packages a crispness and freshness that makes them speak out on the shelf

As rising business costs swing more and more retailers over to the self-service idea, it isn't enough for packages to be "silent salesmen." Packages will have to *talk*. They'll have to out-talk their competitors. Talk their way off the shelf to the cash register.

And they can. *Coated* Lithwite folding cartons have already proved what they can do in mass displays. *Coated* Lithwite packages have a stand-out brightness and crispness because this revolutionary coated board takes ink better, reproduces colors more sharply and brilliantly. What's more, they have a quality look and feel that tips the scale in that split-second of indecision in a woman's mind.

Keep *Coated* Lithwite in mind, as you get into your postwar packaging plans. Clip the memo, keep it for the day when Gardner-Richardson can again accept new orders for folding cartons that "talk," made of this revolutionary paperboard.

CLIP THIS!

File this Coated Lithwite memo for reference when this quality paperboard is again available.

1. Made by a revolutionary process. Coated Lithwite is the brighter, whiter paperboard that is formed, made and coated in one high-speed operation. Proved and improved for six years.

2. Means more eye-appealing cartons. Coated Lithwite's smooth, velvety, chalk-free surface forms a better base for printing inks and plates—reproduces even the smallest type cleanly, crisply. Brings colors up brilliantly—gives halftones a sharp realism.

3. Fewer jammers and leakers. Coated Lithwite scores accurately without flaking or shattering. Takes a positive, tight seal.

The GARDNER-RICHARDSON Co.

Manufacturers of Folding Cartons and Boxboard

MIDDLETOWN, OHIO

Sales Representatives in Principal Cities: PHILADELPHIA • CLEVELAND • CHICAGO • ST. LOUIS • NEW YORK • BOSTON • PITTSBURGH • DETROIT

Subtle Extras

OWENS-ILLINOIS GIVES TO BLAKES

FOR many years, Blakes have been widely accepted as the ideal containers for pills, capsules, tablets and hydroscopic items.

They are outstandingly ethical in appearance . . . designed for maximum shelf-stocking . . . adaptable to front or side panel labeling. They handle easily and efficiently in modern, high-speed equipment.

To give you the utmost value in Blakes, Owens-Illinois designers and engineers worked out a series of improvements . . . that increased strength, improved pouring, and reduced weight.

Blakes by Owens-Illinois are up to 17% lighter, their shoulders have a new slope, bottoms are stronger, necks are shorter.

Blakes by Owens-Illinois are made in Amber, Flint, and Emerald Green. They give you extra values in filling, shipping, and displaying your products. Sizes from ½ oz. to 32 oz.

OWENS-ILLINOIS GLASS COMPANY
TOLEDO 1, OHIO
Branches in All Principal Cities

Duraglas
TRADE-MARK REG. U.S. PAT. OFF.
CONTAINERS
Protectors of Quality

The Black Magic line of preparations featured by Bombi makes dramatic use of black and white in its packaging.

The Sage Air Refresher makes use of a metal screw cap with a small wire attachment which automatically lifts the wick.

Chen Yu designed this little mahogany stained wooden stand for summer and back-to-school promotion.

Storm Warning

d'Artimon tried a new angle, for perfumes, when it broke Blue Peter, named and packaged in the nautical tradition Blue Peter is apparently doing all right for now Storm Warning joins it, also packaged in wood, rope and sealing wax. According to the advertising copy, Storm Warning is "the perfume that signals Beware, fresh as the scurrying wind, bold as the tempest's thunder, Storm Warning truly expresses the tempestuous individuality of the modern woman."

Children's Lines

Children's lines continue to make news. Parfait finally readied "Sweet 'N Lovely", a dollar line, and broke with considerable fanfare in Marshall Fields. Restricted to department stores, it is now being introduced in other cosmetic departments throughout the country. Included in the line are cologne, bubbling bath, hand lotion, soapless shampoo, powder mitt, soap and a "rose-tinted lip-smoother".

Another Chicago outfit, Wetherholt, announces a new line in toiletries designed exclusively for little women under teen age and known as "Pigtail Parade." Designed for girls between the ages of 4 and 12, the set contains soap, bath mitt, bubble bath and cologne. An illustrated folder inclosed in each urges the Pigtail Parader to comb her hair, brush her teeth, get plenty of sleep, dress neatly and bathe frequently to grow up to become a beautiful lady. The package retails at $3.00.

Hands and Nails

While the over-all use of hand softeners has remained the same, a Fawcett Publication's survey shows a marked growth in the number of women who prefer hand creams, with a corresponding decrease in the number of those who use lotions. Frequency in the daily use of lotions has also shown a slight drop, while there is a considerable increase, from 50 per cent in 1944 to 58 per cent in 1945, in the number of women who use hand creams more than once a day.

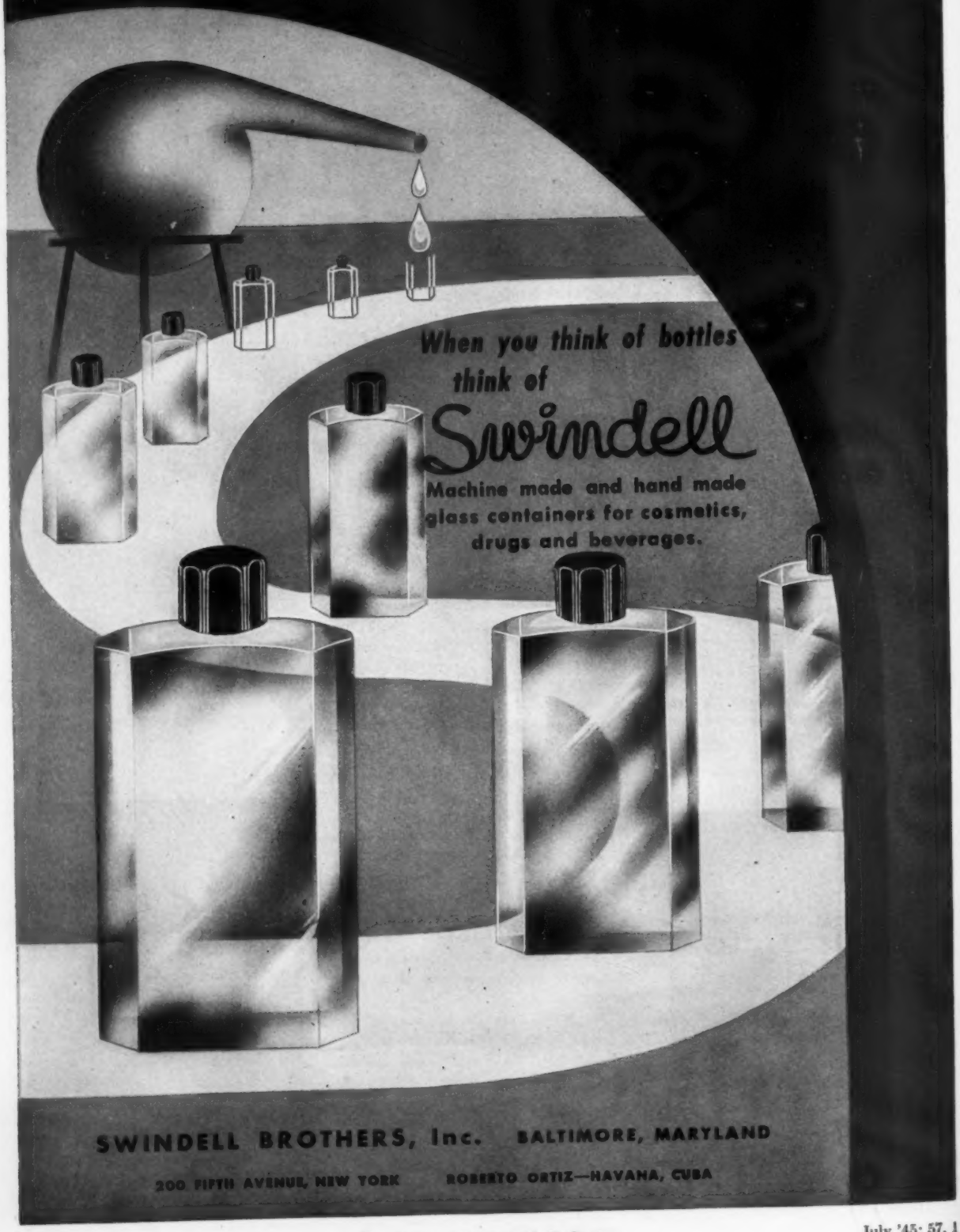
The great majority of women, 93 per cent, manicure their nails at home once a week. This year nearly half of these women have turned to 60 cent nail polishes as compared with less than 40 per cent who bought expensive polishes in 1944. Three-quarters of the women who polish their nails apply two or more coats, with one-third of that number using a colorless base.

Wetherholt is featuring toiletries designed exclusively for little women under teen age known as "Pigtail Parade."

Parfait presents a new line of cosmetics for the younger generation of girls called "Sweet 'n Lovely."

Storm Warning (the perfume that signals beware!) is the name of a new perfume by Parfums d'Artimon, packaged in nautical fashion.

LOOKING INTO THE FUTURE



When you think of bottles think of

Swindell

Machine made and hand made glass containers for cosmetics, drugs and beverages.

SWINDELL BROTHERS, Inc. BALTIMORE, MARYLAND

200 FIFTH AVENUE, NEW YORK ROBERTO ORTIZ—HAVANA, CUBA

HERE'S YOUR CHANCE TO TEST VIPACO '6-ACTION' GUMMED TAPE

1. STICKS FASTER!
2. GRIPS STRONGER!
3. SEALS CLEANER!
4. WON'T SIDE SLIP!
5. FOLDS SMOOTHER!
6. ADHERES PERMANENTLY!

Here's the amazing, improved gummed sealing tape that means better, more economical packing and shipping for you. VIPACO "6-Action" gummed tape is stronger, yet less bulky . . . a specially prepared glue gives even overall coverage and won't side-slip . . . unusual flexibility allows for gripping around corners . . . it sticks instantly without added pressure.

VIPACO gummed sealing tape is the answer to many a wrapping problem! It's available in all sizes. *Test it for yourself*—write now for a SAMPLE—no obligation. Prices on request.

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The VIKING PAPER COMPANY, INC.

542-544 WEST BROADWAY
NEW YORK 12, NEW YORK

MAIL THIS COUPON FOR SAMPLE

VIKING PAPER COMPANY, INC.
542-544 West Broadway, New York 12

SEND ME a Sample of your improved VIPACO "6-Action" Gummed Sealing Tape—I'd like to test it for myself. No obligation.

Name_____

Address_____

City_____ State_____

Clearsite* plastic containers

A wide range of products are packed to AD-vantage in Clearsite* plastic containers

USING CLOSURES TO SUIT THE PRODUCT

Clearsite
is
Shatterproof
Seamless
Featherlite

*Reg. U. S. Pat. Off.

Powders, crystals, tablets, and oils, with standard caps or dispensing closures; thread with thimble tops, surgical goods, machine parts, sporting goods, hardware, first aids, items which should be protected from either breakage or handling get better protection in CLEARSITE!

Our Package Design Engineers will gladly submit suggestions

CELLUPLASTIC CORP.

CELLUPLASTIC CORPORATION

EXTRUSION AND INJECTION MOLDERS

60 AVENUE L NEWARK, N. J.

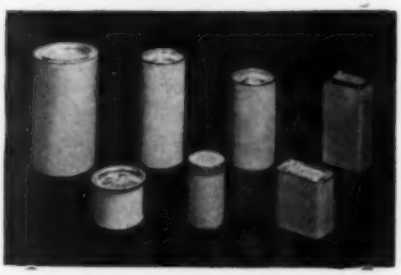
WEST COAST REPRESENTATIVES CONTAINER SERVICE CO., 1266 North Western Avenue, Los Angeles 27, Cal.

"The bigger the family—the better the service"

THAT'S a fact in any well-run family! And no family's better equipped to meet *your* packaging needs than Continental. Extensive resources and facilities plus technical skill and long experience will solve *your* container question. Our experts will analyze it impartially.

Continental now covers every phase of packaging—metal containers, liquid-tight paper cups and containers, fibre cans and drums, steel pails, various heavy duty containers.

Right now we're busy meeting Uncle Sam's needs. But keep your eye on Continental! And on Continental's trademark, too! The Triple-C stands for one company with one policy—to give you only the best in quality and service.



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CONTINENTAL CAN COMPANY, INC.

CONTINENTAL C PAPER DIVISION

FIBRE DRUMS The Container Co., Van Wert, Ohio

LIQUID-TIGHT FOOD CONTAINERS — Boothby Fibre Can Co. Roxbury, Mass.

PAPER CUPS AND FOOD CONTAINERS — Mono Containers Newark, N. J.

COMBINATION PAPER AND METAL CONTAINERS

Headquarters: 330 W. 42d St., New York 18, N.Y.

13 Plants — Sales offices in all principal cities

Continental Fibre Cans—These composite cans (with fibre bodies and metal ends) meet a definite packaging need. They bridge the gap between all-metal cans and paper containers, folded boxes or bags. They're made for easy conveyor and filler handling, in a wide range of shapes, sizes, and diameters, with a great variety of metal dispensing closures—"naturals" for safe shipping of drugs, cosmetics and chemicals.

DESIGN RUNS RAMPANT.

In addition to supplying plastic Caps, Rouge Boxes and Lipstick Containers, Fontaine's expanded facilities now add extra appeal to • • • your cosmetic package through silk screening, spraying and metallic finishes.

THE FONTAINE LINE

CAPS AND CLOSURES
Ball caps, 18-20-22 mm.
Ridged edged caps, 8-10-13-15 mm., standard GCA threads.
Wood closures for men's and women's toilet waters.
Others in all sizes and colors.

LIPSTICK CONTAINERS AND ROUGE BOXES
Swivel or push-up Lipstick Containers.
2 standard Rouge Box styles in three sizes. Others.

DECORATIVE PROCESSES
Silk Screening, Gold Leaf Printing and Spraying. Designs created.

METALLIC FINISHES
in gold, silver and sparkling colors on glass, plastic and base metals.

• For Decorative Processes, write CONTAINER FINISHING CO., an Affiliate of

FONTAINE PRODUCTS CO. • *Art In Plastics* • 306 E. 61st ST., NEW YORK 21

As Are the Settings to Lovely Jewels . . .

SO ARE WARNERCRAFT PACKAGES TO THE PRODUCTS THEY ENCLOSE!

The jewel alone may possess fire and brilliance—may be valued at a fabulous price — yet it is the setting which enhances that inherent beauty, which crystallizes in the mind of the prospective buyer the all-conquering desire for possession which culminates in the sale.

Warnercraft containers are the settings for countless cosmetic products. They are custom-designed with all the skill—the resourcefulness—the eye-pleasing enchantment — that Warner-craftsmen can build into them. Our years of experience meeting many and varied requirements are your assurance of a practical, sales-building solution of your individual needs.

New materials for packaging new products, or old ones . . . new methods for solving new problems, or old ones . . . new protection for shipping to new markets, or old ones. . . . Warner Brothers are ready and waiting to discuss these vital subjects with you now.

Warnercraft Tekwood* is one of the many new packaging improvements developed by Warnercraftsmen for post-war use. Light in weight as cardboard, yet many times as strong, it is adaptable to any type of covering. It is especially suitable for boxes intended for re-use.

PATENT APPLIED FOR *REG. U. S. PAT. OFF.

WARNERCRAFT

"THE FINEST WORD IN PACKAGING"

Makers of set-up and folding boxes of all types, transparent acetate containers, hand made specialties, counter displays and dispensers.

THE WARNER BROTHERS COMPANY

Main Office and Factory: 325 Lafayette Street, Bridgeport, Conn.
New York Sales Office: 200 Madison Avenue, New York, N. Y.

"Tops" in Tops

. . . DODGE MILBOSSED-TOP CORKS

BECAUSE they combine the maximum in closure beauty and utility, the demand for Dodge Milbossed-Top Corks increases daily. Wide-awake merchandising men know that these smartly styled corks create sales appeal for many packaged products. They know, too, that the tight seal afforded by these modern closures insures their customers getting perfect satisfaction from a perfectly preserved product.

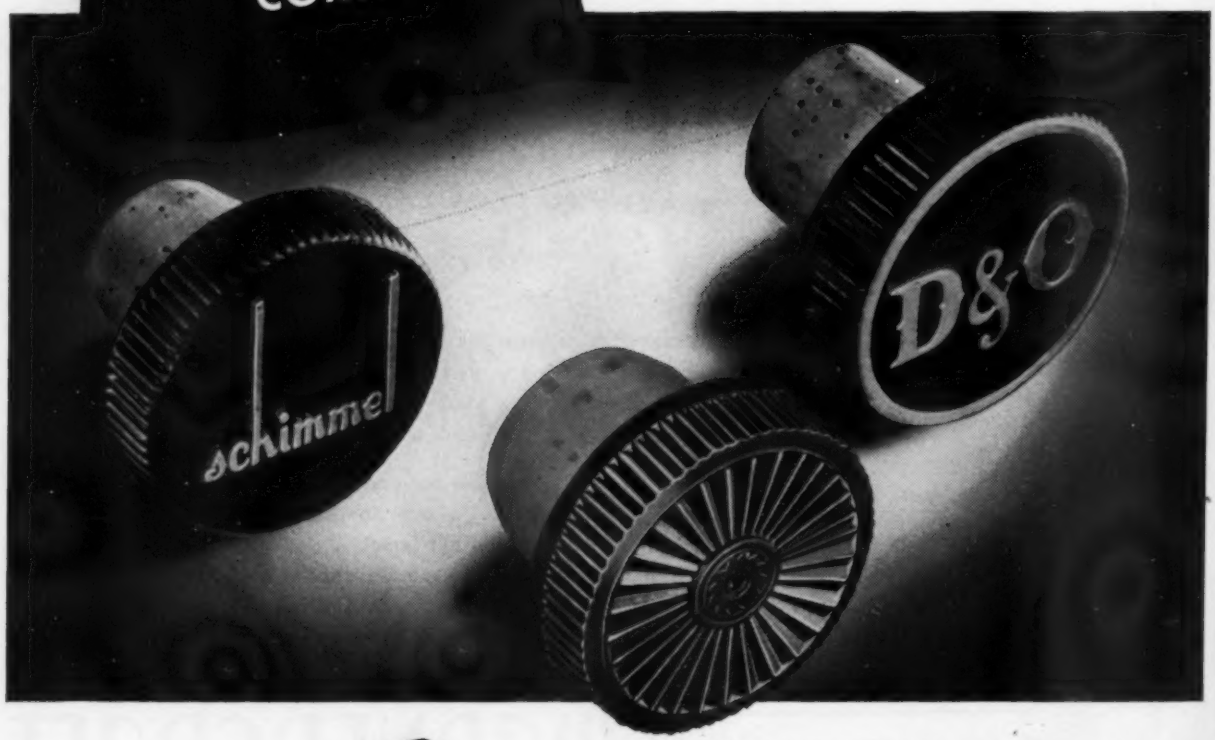
Dodge Milbossed-Top Corks are available in a wide variety of sizes, colors and designs. Best of all, they can be individualized to carry your name, brand or trade mark.

Interested?

Just write or wire us—giving your particular specifications and quantities. We'll be delighted to quote prices and delivery dates.

* * *

P. S. About those delivery dates. Some of the materials used in the manufacture of Dodge Milbossed-Top Corks are pretty scarce, and that, coupled with our backlog of orders, may mean a short delay in filling new orders. So get in touch with us without delay.



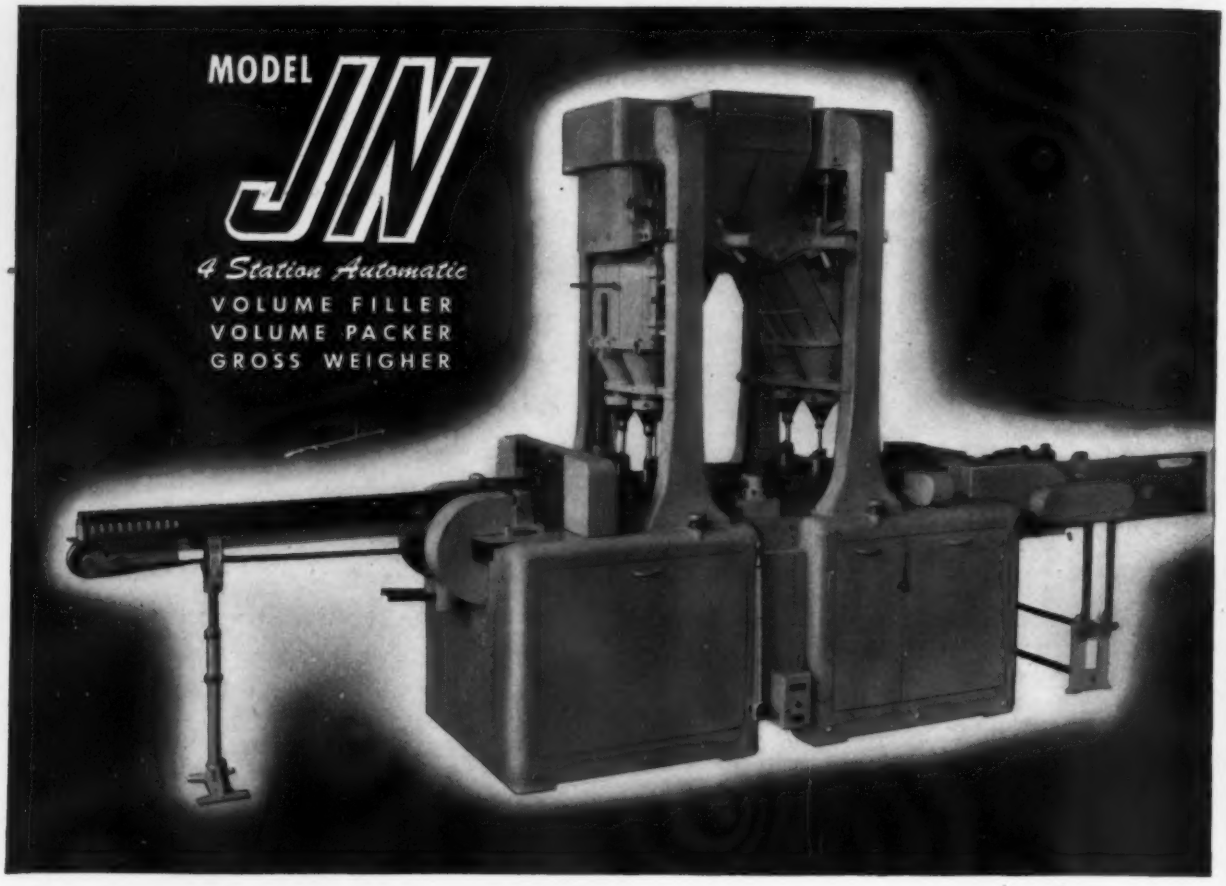
Dodge Taper Corks have been a universal favorite for years. Where individuality and highly stylized closures are relatively unimportant—where just good, dependable corks will answer the purpose—use Dodge Taper Corks.

DODGE CORK COMPANY, INC., LANCASTER, PA.

DODGE CORK *Closures*

Designed to Guard the Integrity of the Contents

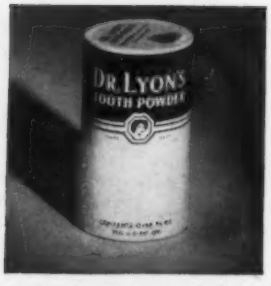
STURDY
HAZEL
Wheeling, W. Va.



. . . for all types of powdered, granular and paste materials

The new Model JN is unique in that it will pack, or pack and weigh, automatically. It can be adjusted for controlled pressure—the machine can be adapted easily to suit the size and type of container required, and the material handled.

The many new automatic features, plus the speed and accuracy of the JN, soon pay for the machine through savings on labor costs alone. It will pay to get full details and specifications—there are many features never available before—write today!



Filled and packed on the Model JN at a speed of 120 per minute, with an accuracy within 1/8 ounce.

Send U.S. details on any of your packaging problems—we have the machines and the engineering background to help solve them.

US *Automatic Box Machinery Co. Inc.*

Owning and Operating

NATIONAL PACKAGING MACHINERY CO. • CARTONING MACHINERY CORP.

18 ARBORETUM ROAD, ROSLINDALE, BOSTON 31, MASS.

Branch Offices: NEW YORK · CLEVELAND · CHICAGO
LOS ANGELES (KEUGH EQUIPMENT & SUPPLY CO.)

MAKE THIS *Your* ADHESIVE LABORATORY

When you need help with your adhesive problems, or if you should want better results in your gluing or packaging operations, submit the facts to your nearest Paisley Laboratory for full analysis. Here, skilled adhesive engineers are always available to you for consultation. Few manufacturers can afford to maintain their own adhesive laboratories. That's why hundreds of leading concerns in every industry regularly send us facts and samples of labels, cartons, fabrics, and other materials for study and testing. They depend upon the recommendations of Paisley's adhesive experts to provide uninterrupted operation of their production lines. Write today for our "Adhesive Operation Data Sheet"—Return it promptly with all information asked for. There is no cost or obligation involved!

PAISLEY PRODUCTS INCORPORATED

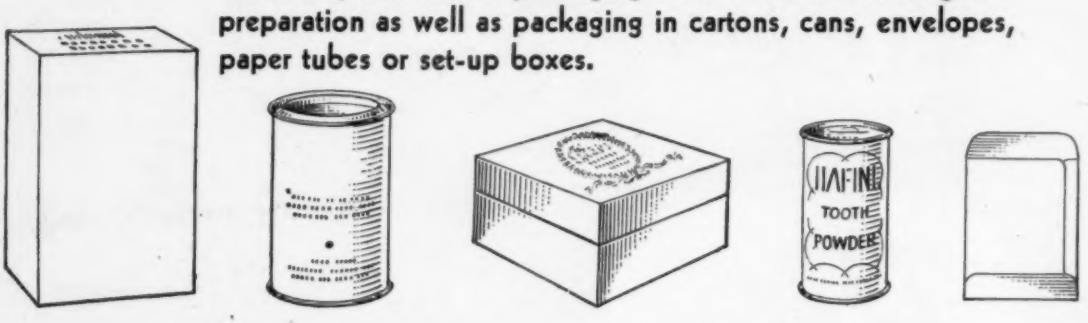
Manufacturers of Glues, Pastes, Resin Adhesives, Cements, and Related Chemical Products

1770 CANALPORT AVE., CHICAGO 16, ILL. ★ 630 W. 51st STREET, NEW YORK 19, N. Y.

Yes Sir!
We Can Package Them For You

Open capacity now available on High Speed Automatic Machinery for packaging dry powders - drugs - cosmetics - chemicals.

Our complete custom packaging service includes mixing and preparation as well as packaging in cartons, cans, envelopes, paper tubes or set-up boxes.



The Stevens-Wiley Manufacturing Co., Inc.

Hancock, Palethorp & W. Berks Streets, Philadelphia 22, Pa.

Phones—Regent 1616-1617

BRIDGEPORT...

For the past two years our facilities have been devoted almost exclusively to the production of war materials. We have been fortunate, in that we have been able to handle this work on the same equipment used for our regular peace time products, and, consequently, when material again becomes available for lipstick containers, vanity cases and other metal cosmetic items we will be prepared to start producing our regular line immediately. If you too are planning your post war program, we will be glad to assist you.

THE *BRIDGEPORT* METAL GOODS MFG. CO.

Established 1909

BRIDGEPORT PHONE: BRIDGEPORT 5-3125 CONNECTICUT

VANITY CASES • ROUGE CASES • PASTE ROUGE CONTAINERS • LIPSTICK HOLDERS (ALL TYPES) • POWDER BOX COVERS • EYEBROW PENCIL HOLDERS • BOTTLE CAPS • JAR CAPS • METAL NOVELTIES TO ORDER

"My . . . they're marvelous"

This enthusiastic expression is highly descriptive of Meritseal Caps. The outstanding beauty of Meritseal has equal appeal to quality conscious buyers of all ages.

Meritseal is not only a smart looking closure. It is also a very efficient seal. Its trim appearance and gleaming beauty are in keeping with the finest cosmetic products . . . yet its cost is less than many closures of comparable good looks.

This combination of handsome appearance and modest price is made possible by Meritseal's novel construction. Scores of well known cosmetic manufacturers are enthusiastic Meritseal users. Write on your letterhead for samples and full information. See for yourself how Meritseal will enhance the appearance of your product.

CROWN CORK SPECIALTY CORPORATION
DECATUR, ILLINOIS
Division of Crown Cork & Seal Company

LUSTEROID....

Your Partner in Product Protection

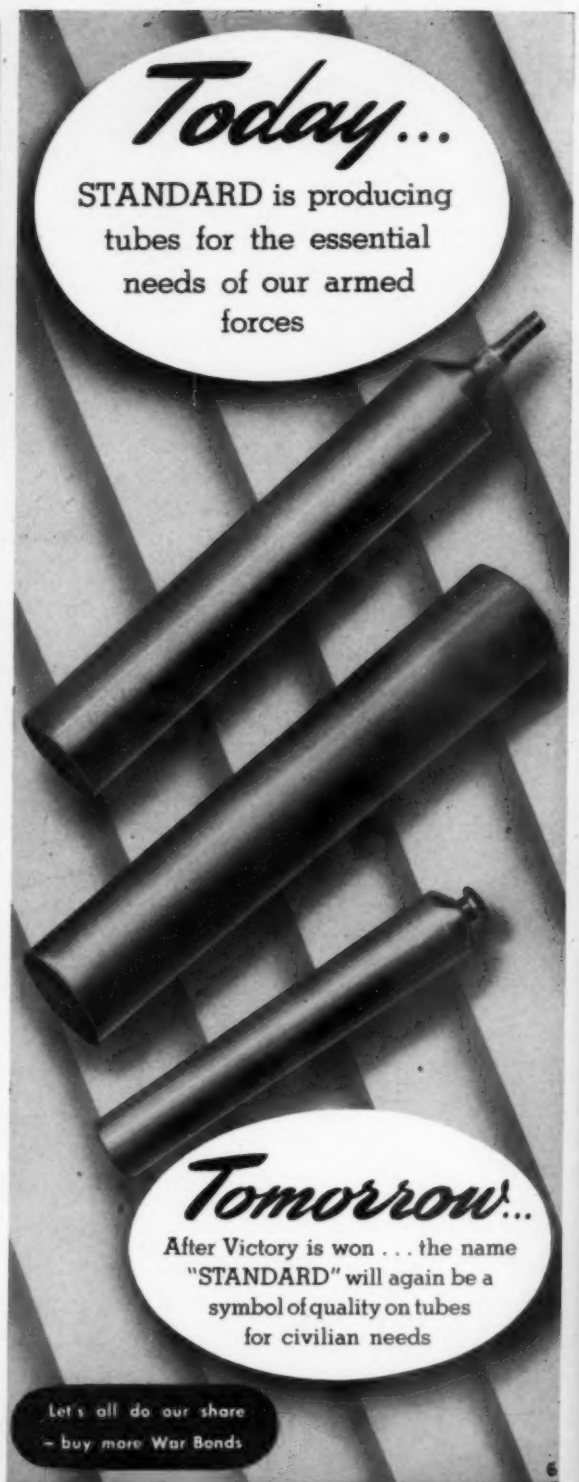
You'll benefit in every way by making LUSTEROID "your good man, Friday," in your post-war packaging.

LUSTEROID vials and tubes combine full protection with maximum visibility. Yet they are featherlight for economy and easy handling. All colors of the rainbow . . . clear or opaque . . . give the package designer free rein. With LUSTEROID, no labeling is necessary as these modern plastic containers are printable. No protective packing or partitioning are required in shipment.

Sizes from ¼" to 1¼" in diameter and lengths up to 6". Cork, slip-on or screw-cap closures.

Write for post-war details

LUSTEROID CONTAINER CO., INC.
Formerly Lusteroid Division of Silcocks-Miller Company
Office and Factory
10 W. PARKER AVENUE, MAPLEWOOD, N. J.
MAILING ADDRESS: SOUTH ORANGE, N. J.


Today...
STANDARD is producing tubes for the essential needs of our armed forces
Tomorrow...
After Victory is won . . . the name "STANDARD" will again be a symbol of quality on tubes for civilian needs
Let's all do our share – buy more War Bonds

Standard
SPECIALTY & TUBE CO.
New Brighton, Pa.

All I did was stock a bit of lotion in those nifty, modern Foster-Forbes Cosmetic Bottles.

FF FOSTER-FORBES
Cosmetic Bottles

FOSTER-FORBES GLASS CO., MARION, INDIANA, U. S. A.

SALES REPRESENTATIVES:

KANSAS CITY • DETROIT • CINCINNATI • CHICAGO • CLEVELAND • MILWAUKEE
ST. PAUL • ST. LOUIS • ATLANTA • NEW YORK • MEMPHIS • LOUISVILLE • HAVANA, CUBA

NEW!
UNIQUE!
DISTINCTIVE!

SALES-STIMULATING!

We are happy to announce to the trade that we are prepared to distribute these two newly created, unusual, highly attractive Glass Stoppered Bottles, as shown here, *in one-half ounce and one ounce sizes!* For full particulars, prices, etc., WRITE US AT ONCE!

OTHER ITEMS WE CAN SUPPLY:

Plastic & Metal Closures for the Cosmetic Trade in a Variety of Designs and Colors

Bottles and Jars in Opal and Flint

Specializing in Enameling and Silk Screening

Samples on Request!

RICHFORD
CORPORATION
221 FOURTH AVE. • NEW YORK 3, N. Y.
P. E. Roehrich, President
AL 4-4958 AL 4-9656

Plastics will be back again - SOME DAY SOON

Soon, now, you'll again be able to hitch your sales plans to the time-proven sales appeal of Plastic Packaging. But not without planning today. For whether you're interested in custom-created containers involving special molds or specialties from our stock molds . . . in containers for cream rouge, dry rouge, mascara, face powder or lipstick . . . others are already planning design and contracting for production.

We're still concentrating on war work — but we've got one eye on the future. Why not talk over your post-war packaging plans now with the name that has stood for Plastic Packaging since we originated the screw-type Plastic Rouge Box? No obligation.

KURZ-KASCH

For over 25 years Planners and Molders in Plastics

Kurz-Kasch, Inc., 1421 South Broadway, Dayton, Ohio
Branch Sales Offices: New York • Chicago • Detroit • Indianapolis
Los Angeles • Dallas • St. Louis • Toronto, Canada.
***Export Offices:* 89 Broad Street, New York City.**

Pyrex Brand Bottles are Renowned for...

What they don't do!

No. 570 Roux Culture | No. 1460 Reagent | No. 610 Milk Dilution | No. 630 Screw Top | Penicillin Bottle

• THOUSANDS of Pyrex brand bottles of every size and shape are used annually by the pharmaceutical and cosmetic industries. These bottles are standard equipment in most laboratories. They facilitate manufacture, and they are used for final packaging. Uniquely enough the majority of these Pyrex bottles are purchased not only for what they do, but also for what they don't do. For example:

PYREX BOTTLES DON'T

PYREX BOTTLES DON'T CONTAMINATE CONTENTS
(*They are chemically stable—alkali free*)

PYREX BOTTLES DON'T

PYREX BOTTLES DON'T AFFECT pH
(*They are fabricated from Pyrex Chemical Glass No. 774—which is virtually insoluble*)

PYREX BOTTLES DON'T

PYREX BOTTLES DON'T BREAK EASILY
(*They are mechanically strong*)

PYREX BOTTLES DON'T

PYREX BOTTLES DON'T CLOUD UP
(*They withstand repeated autoclaving, hot air or steam sterilization without breakage, decomposition or clouding*)

T.M. REG. PYREX U.S. PAT. OFF.

In short, Pyrex bottles are universally specified where chemical stability is of prime importance, where mechanical strength is essential and where heat resistance may be a factor. Pyrex bottles are made by machine and by hand or by a combination of both methods. Several styles in machine made bottles are currently available. Other types of Pyrex bottles will be more plentiful, when war demands slacken. Inquiries are invited for both your present and your postwar requirements.

"Pyrex" is a registered trade-mark and indicates manufacture by

CORNING GLASS WORKS • CORNING, NEW YORK

PYREX FOR PRODUCT PROTECTION FROM PROCESS TO PACKAGE
PHARMACEUTICAL GLASSWARE

CORNING means Research in Glass

COUNT THE PLUSES THIS GREAT ELECTRONICS DEVELOPMENT

can give *your* business. Operating advantages! Advertising and merchandising advantages!

MANUFACTURING AND ASSEMBLY AREAS, REST ROOMS, WAITING ROOMS, need Sperti U-V Electronic protection against the spread of colds, flu and other airborne infections. Cuts absenteeism. Boosts morale, efficiency.

HELPS PROTECT PRODUCTS such as drugs, infants' wear and toys, foods, cosmetics and many other items from contamination by airborne bacteria during every stage of manufacture. Also being widely used for more accurate inspection.

PERMITS BETTER COLOR MATCHING. Sperti U-V Electronic lamps reduce complaints, returns, costly errors due to faulty matching. Used in window and interior displays of retail stores to show up colors vividly.

KEEPS FOOD FRESHER, LONGER in refrigerators. Kills harmful bacteria, protects flavor, freshness. Almost sure to be a big selling feature in postwar refrigerators for homes and commercial installations.

Study your own business. See how this great new product of electronic research can be applied to your own business, service or products . . . to give you a big plus. Sperti U-V Electronic Installations are tested, proved . . . already in use in a wide range of applications in many industries. Get the facts. Learn the many exclusive advantages of Sperti U-V Electronic Installations which are protected by exclusive, basic patents.

Here are 15 other uses that suggest the almost limitless applications for Sperti U-V Electronics

• In air-conditioning units and furnace air-ducts • In laundry machinery • In refrigerator trailers • In railroad cars and street cars • In rest rooms • In medicine cabinets • In shoe stores • On public toilets • In railroad, airline and bus terminals • In mortuaries • In ambulances • In doctors' and dentists' waiting rooms • In elevators • On electric irons • In kitchen cabinets

SPERTI ELECTRONICS U-V INSTALLATIONS

WRITE TODAY FOR FULL INFORMATION. MAIL THE COUPON.

Sperti, Inc.
Electronics Division Dept., DC-75
Cincinnati 12, Ohio

Please send me additional information about Sperti U-V Electronic Installations, their advantages, and their applications.

NAME OF FIRM OR INSTITUTION.....

YOUR NAME.....

ADDRESS.....

CITY.....STATE.....

I am particularly interested in its use for.....

.....

SPERTI, INC., CINCINNATI, OHIO • RESEARCH • DEVELOPMENT • MANUFACTURING

CONSOLIDATED OFFERS

1—World automatic Straightaway Labeller.
1—90 gal. stainless steel jack. Kettle.
1—No. 5 Sweetland Filter, 20 copper leaves.
1—Stokes Auger type Powder Filler.
1—Semi-automatic Labeling Machine.
5—Dry Powder Mixers, up to 2000 lbs.
20—Aluminum, Copper, Glass Lined, jacketed and agitated Kettles.
1—Abbe Blutergess Sifter No. 2.
2—Colton No. 3 Toggle Presses.
3—Stokes Steam Water Stills, 5, 10, 25 gal. per hour.

Only a partial listing. Send us your inquiries.

We buy and sell from a Single Item to a Complete Plant
CONSOLIDATED PRODUCTS CO., INC.
20-21 Park Row, New York, N. Y. Shops: 335 Doremus Ave., Newark, N. J.

Available now — exquisite miniature perfume containers, ranging in capacity from a few drops to one ounce! Photograph shows one popular shape: Note how individuality and character can be dramatized by use of decorative stoppers and hand-applied floral designs. Exclusive styles can be manufactured on special order.

GLASS INDUSTRIES MINIATURES FEATURE PATENTED "THREAD-LOK" STOPPER—APPLICATOR which prevents leakage and evaporation of perfume.

GLASS INDUSTRIES INCORPORATED

DESIGNERS GII MANUFACTURERS

10 WEST 33RD STREET, NEW YORK 1, N. Y.

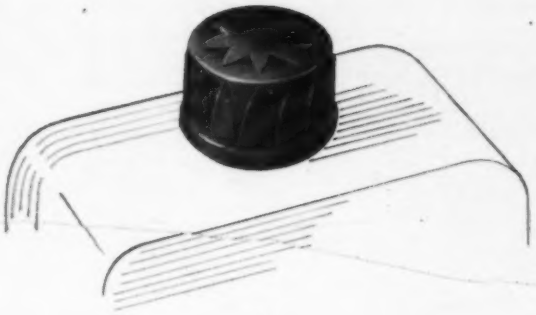
FISHING FOR POSTWAR SALES?

PACK TO ATTRACT IN *Maryland* glass

IF you are angling for new customers in the competitive markets of tomorrow, remember that smart, attractive packaging stops the eye . . . starts the sale. Let the sparkling grace of crystal clear Maryland bottles and jars help make your product bait for more customers. We will be glad to send samples if you are making package improvement plans for the future.

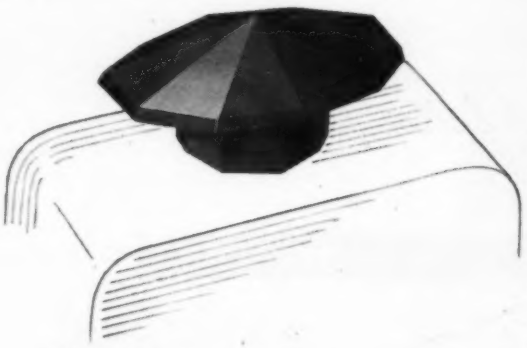
MARYLAND GLASS CORPORATION, BALTIMORE 30
. . . 270 Broadway, New York 7
Berman Bros., Inc., *1501 S. Laflin St., Chicago 8*
J. E. McLaughlin, *401 Lock St., Cincinnati 2*
Aller Todd, *1224 Union Ave., Kansas City 7*
S. Walter Scott, *608 McCall Bldg., Memphis 3.*
H. A. Baumstark, *4030 Chouteau Ave., St. Louis 10*
Owens-Illinois Glass Co., Pacific Coast Division,
135 Stockton St., San Francisco 19

THREE "DO'S" AND A "DON'T" IN CHOOSING YOUR PRIVATE MOLD CAP

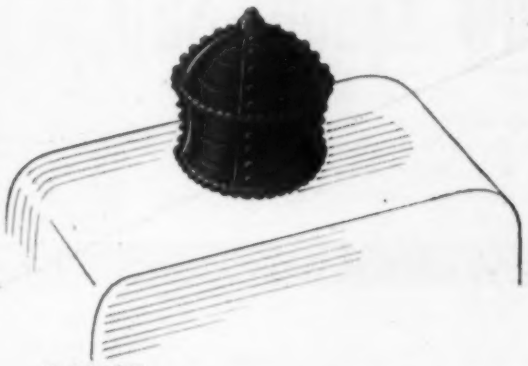


DO choose a simple, modern Armstrong's Artmold Cap like this private mold for low-cost distinction.

DO choose a slim, graceful Artmold Cap like this private mold to make your package look taller, distinctive.



DO take advantage of limitless design possibilities of Artmold Caps to give your package eye-catching individuality and extra style when catering to luxury trade.

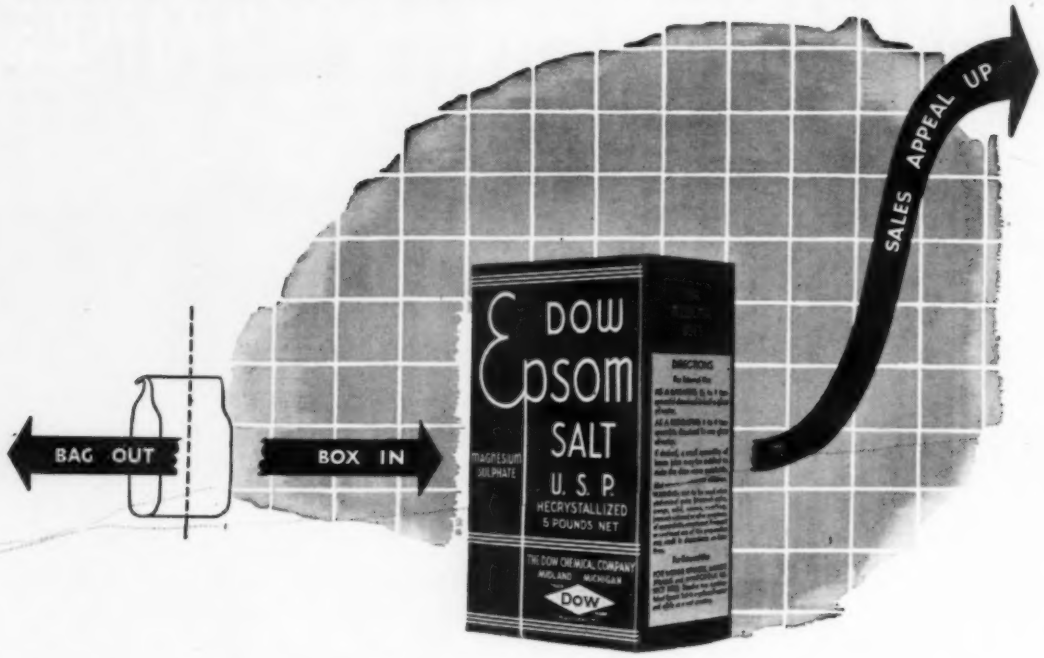


DON'T go in for impractical, expensive features like this undercut design with beaded parting line. Get efficient, economical designs from Armstrong.

ARMSTRONG'S *Artmold* PLASTIC **CAPS**

GIVE YOUR PACKAGE the style and individuality it will need to compete in post-war markets with Armstrong's Artmold Caps. For free design suggestions, send sample or drawing of your package to Armstrong Cork Company, Glass and Closure Division, 3807 Prince Street, Lancaster, Pennsylvania.

ONE OF 96 DOW CHEMICALS USED IN THE PHARMACEUTICAL INDUSTRY



Dow Epsom Salt, U.S.P.

in a new and better package . . .

Your old friend, the 5-lb. package of Dow Epsom Salt, U.S.P., is stepping out in a brand new blue and white carton. It's the same fine quality Epsom Salt you've known for so many years in the 5-lb. bag. Now it comes to you with greater eye-appeal, better protection, and increased sales potential in this sturdy package.

The attractive needle-like crystals and high purity of Dow Epsom Salt, U.S.P., are well known to the pharmaceutical industry. This new carton guards these qualities well . . . lengthens shelf life . . . makes a handsome appearance on your display counter. And Dow can give you better delivery service with the new packaging method.

This improved package typifies Dow's constant efforts to anticipate your every need in Epsom Salt. As a leading producer of U.S.P., Technical, and Stock Food grades of Epsom Salt, Dow is at your service. Your inquiries are always welcome.

THE DOW CHEMICAL COMPANY, MIDLAND, MICHIGAN

New York • Boston • Philadelphia • Washington • Cleveland • Detroit • Chicago
St. Louis • Houston • San Francisco • Los Angeles • Seattle

Pharmaceutical

Chemicals

DOW

CHEMICALS INDISPENSABLE TO INDUSTRY AND VICTORY

NEWS . . .

Dr. Thompson Founds Business

Dr. Marvin R. Thompson, whose resignation as president of William R. Warner & Co., Inc. and director of the Warner Institute for Therapeutic Research became effective July 1, has announced plans for the formation of three separate operating companies: Marvin R. Thompson will manufacture and distribute the MRT brand of ethically promoted pharmaceutical specialties; Paul Thompson Associates, the P-T-A brand of consumer-promoted pharmaceutical and toilet accessories, and M-R-T, Inc., will develop modern research trends in cosmetics.

The offices, laboratories and manufacturing facilities are located at 67 Greenwich Ave., Stamford, Conn.

Louis Amic Visits Here

Louis Amic, director of Etablissements Roure-Bertrand Fils and Justin Dupont, Paris and Grasse, arrived in this country the latter part of June. Mr. Amic came here as an expert on essential oils to meet the French Purchasing Mission. While here he expects to spend some time with Roure-Dupont, Inc., New York, the American representative of his company.

M. M. RICKETTS

Standard Labs. Appoints Ricketts

M. M. Ricketts has been appointed general sales manager of Standard Laboratories, Inc., and has also been elected a vice-president and director of the company. He was formerly director of wholesale and chain sales and assistant secretary of Wyeth, Inc.

Truesdell Joins Bristol-Myers

Bristol-Myers Co., New York, has announced the appointment of William G. Truesdell as special assistant to Lee H. Bristol, in which capacity he will specialize on sales of Cheplin penicillin and allied Cheplin products.

Mr. Truesdell is a graduate of the Cincinnati College of Pharmacy. He started with an ethical manufacturer as a detail man, later becoming field manager and then in charge of special sales. Subsequently he served as civilian consultant with the Medical Department of the United States Army where his special assignment was to set

WILLIAM G. TRUESDELL

up new methods of inspecting drugs and chemicals. Upon completing this assignment he became sales manager of Ames Laboratories, resigning to become sales manager of Schenley Laboratories.

Fauser Heads Warner

Erwin F. Fauser, executive vice-president and general manager of William R. Warner & Co., Inc., New York, has been elected president of the company, succeeding Dr. Marvin R. Thompson.

Weinberger Stores Buy Widmann & Teah

Weinberger Drug Stores, Cleveland, has acquired Widmann & Teah, Lock Haven, Pa., which operates 27 drug stores in Pennsylvania and New York. Adolph Weinberger, president of Weinberger Drug Stores becomes chairman of Widmann & Teah and Lester Widmann continues as president.

Dr. McDonnell Joins Schering

Schering Corp., Bloomfield, N. J. has appointed Dr. John N. McDonnell to the newly created post of director of domestic sales and promotion. Arthur F. Peterson who has been manager of domestic sales division has resigned. Herman W. Leitzow, eastern division

DR. JOHN McDONNELL

manager since 1944, has been made assistant to Dr. McDonnell. George C. Straayer, manager of the professional service division will continue in that post and in addition will devote part of his time to the development of field operations for Schering.

Dr. McDonnell for the past four years has been head of research of the Drugs Branch of the War Production Board. He was recently national director of civilian penicillin distribution. He is editor of "American Professional Pharmacist" and a member of the faculty of pharmacy and business at the Philadelphia College of Pharmacy and Science.

Kolmar Affiliates With Wilckens

Wilckens Chemical & Cosmetic Laboratories, Ltd., Toronto, Canada, has become affiliated with Kolmar Laboratories, Milwaukee. The affiliation was made in lieu of building a new Kolmar plant in Canada.

Kolmar cosmetics in Canada will be manufactured under the same processes and formulae as Kolmar products in the United States, but in the laboratories of the Wilckens company, combining the resources and facilities of the two companies.

Marschner Returns to Centaur

Edward L. Marschner has resigned as chief of the medicinal, chemicals and vitamin unit of the Drug and Cosmetic Branch of WPB and returned to his former connection with the Centaur Division of Sterling Drug, Inc.

Testimonial dinner given in honor of Fred J. Stock at the Waldorf-Astoria, New York.

Canada T.G.M.A. Elects

The Toilet Goods Manufacturers' Association of Canada held its seventeenth annual convention at the Manoir Richelieu, Murray Bay, P. Q., June 15 to 18.

FRED CROWHURST

New officers elected were: president, Fred Crowhurst, United Drug Co., Toronto; 1st vice-president, G. Walter Brown, Bristol-Myers Co. of Canada Ltd., Montreal; 2nd vice-president, L. T. Ridler, Elizabeth Arden of Canada Ltd., Toronto; treasurer, P. P. Powell, Yardley's Ltd., Toronto; secretary, F. C. Wilckens, Wilckens Chemical and Cosmetic Labs., Toronto.

A. E. Laverty of Montreal is the executive secretary-treasurer of the association.

Krantz Addresses Mo. Assn.

The Associated Drug and Chemical Industries of Missouri, Inc. at its meeting June 13 was addressed by Dr. John C. Krantz, director of the Bressler Research Institute of Baltimore. His subject was "Science in a World at War."

Chemists Institute Elects

The American Institute of Chemists, by mail ballot, has elected the following new councilors for three-year terms expiring in May 1948: Dr. Norman A. Shepard, chemical director, American Cyanamid Co., New York; Dr. W. D. Turner, assistant professor of chemical engineering, Columbia University, New York; and Dr. James R. Withrow, professor and chairman, chemical engineering department, Ohio State University, Columbus.

Verley Wins Advertising Award

In a competition including 626 advertisers in 321 lines of business, advertising of Albert Verley & Co. again received the premier award for art, illustration, and photography in the annual creative competition of the National Advertising Agency Network.

Bornsteen On Extended Trip

R. A. Bornsteen, director of the Latin American division of Burroughs Wellcome & Co., is making an extensive trip through Mexico, Central and South America to study local market conditions. He expects to return to New York by October 8.

BIMS Golf Outing

The BIMS held their first golf tournament of the season at Baltusrol Golf Club, Springfield, N. J., June 28.

Paul Dunkel, of Paul A. Dunkel & Co., Inc., had a low gross of 76, with George Dunn, of Smith & Nichols, Inc., right on his heels with a low gross of 78. Horton Spitzer, of Plaskon Co., Inc., took the grand prize.

Puffer Heads Chicago Golf

The Golf Committee of the Chicago Drug & Chemical Association, headed by Bruce Puffer of Kimble Glass Co., has scheduled three tournaments for the 1945 season: June 26 and 27 at

BRUCE PUFFER

Olympia Fields, July 20 at Sunset Ridge, and August 7 at Midlothian.

Uncle's Club Golf Outing

The Uncle's Club, a group of forty men in the drug and chemical industry in Chicago, held its first golf tournament and play-day for members and guests May 29 at Rolling Green Country Club, Arlington Heights, Ill. Sixty-one attended. The low gross winner was Norman Copeland, guest of E. E. Anderson of S. B. Penick & Co. and the low net winner was Jim Leavitt of Wm. J. Hough Co.

The committee on arrangements was headed by Stanley Schuster of Fritzsche Brothers, Inc., assisted by O. A. Nelson of Firmenich & Co., and William Schutte of P. R. Dryer, Inc.

Joseph A. Gauer of Fritzsche Brothers, Inc. is president of the club.

Measured purity goes on an errand of mercy

It's measured purity you see there on the dock beside the famous liner —

Measured purity being unloaded in a distant war theater—

Measured purity on an errand of mercy to help restore health, heal wounds and save lives —

Every day thousands of tons of the finest medicinal products, drugs, vitamins, serums, medical supplies, move from the pharmaceutical houses of America to the docks and thence across the seas.

Among these products are countless new ones—developed in wartime through the indefatigable research work of leading pharmaceutical houses — developed to help our men live and fight again.

Many of these products *started with a fine chemical, or several fine chemicals, of exacting purity.* And the efficacy of the fine chemical often assured the quality and the *success* of the product.

At Baker it is always *measured purity* in fine chemicals—measured to exacting standards.

For more than 40 years Baker has built its chemical business on measured purity. That is why leading pharmaceutical and drug companies choose Baker as a source of supply. They know that Baker's purity by the ton in fine chemicals is the result of unique control methods and ceaseless testing.

J. T. Baker Chemical Co., *Executive Offices and Plant:* Phillipsburg, N.J. *Branch Offices:* New York, Philadelphia and Chicago.

ANALYZED REAGENT Baker's FINE CHEMICALS

Baker's

FINE CHEMICALS

Components of Smart Achievement

Cyanamid's controlled quality materials for the cosmetic industry...

SULFONATED OILS—AQUASOL*, NO-ODOROL*...AEROSOL**
WETTING AGENTS...WATER SOLUBLE GUMS...ZINC
AND MAGNESIUM STEARATE...WAXES—CERESINE WAX,
ISO BEESWAX, U.S.P. BEESWAX...ZINC OXIDE...K & M.
MAGNESIUM OXIDE...K & M MAGNESIUM CARBONATE...TALC

*Reg. U. S. Pat. Off. **Trade-mark of American Cyanamid & Chemical Corporation applied to wetting agents of its own manufacture.

AMERICAN CYANAMID & CHEMICAL CORPORATION
(A Unit of American Cyanamid Company)
30 ROCKEFELLER PLAZA • NEW YORK 20, N.Y.

Dr. Bywater Heads Penick Research

S. B. Penick & Co., has announced the appointment of W. G. Bywater as director of research. For the last ten years a leader of research work on the staff of Parke, Davis & Co., Dr. Bywater is the author of many publications dealing with specific chemical problems.

He received his A.B. and M.A. degrees from the University of Utah and his Ph.D. from Iowa State College.

W. G. BYWATER

S. B. Penick & Co. is planning complete reorganization and expansion of its present laboratories and a new research building is contemplated on land adjacent to its Lyndhurst, N. J. plant.

Pacquin's 25th Anniversary

Pacquin, Inc., celebrated the 25th anniversary of the marketing of Pacquin's Hand Cream at a reception and dinner at the New York Athletic Club, June 27.

The present management has handled the manufacture, sales and distribution since January 1, 1928.

New Warner Men

New members of the professional service department of William R. Warner & Co. who recently completed a two-week course of instruction at the company's home office are: Charles M. de Courcy, James T. Donovan, Harry P. Heflich, Alan G. Herrick, Howard R. Mealy, Willard A. Searle, Jr., David Selditch, G. Daniel Sharpe, William Tager, Glynn A. Beard, Paul W. Culp, Gerald J. Desmond, Jerry F. Dunn, William B. House, Raymond F. Kostick, Melvin D. Snead, Clarence L. Sorensen, Glenn A. Weygant and Louis F. Wyttenbach.

Neil Helfrich Released

Cpl. Neil Helfrich, 20, who was reported missing in action last November 29, and was later reported a German prisoner has been released. He is the son of Mrs. J. H. Helfrich of Wheaton, Ill.

An observer with the field artillery, Cpl. Helfrich was overseas little more than a month when he was reported missing. He has a brother, Pfc. John Helfrich serving in the infantry in Europe.

Gerald Kerrigan Engaged

Gerald Austin Kerrigan, son of James J. Kerrigan, vice-president of Merck & Co., is engaged to marry Miss Mary Patricia O'Connor, Brooklyn, N. Y. Mr. Kerrigan, who is a student at Harvard Medical school, is an apprentice seaman in the U. S. N. R. He was graduated from the Canterbury School and Harvard College.

Scheer Advanced by Amecco

Walter E. Scheer has been elected vice-president and a member of the board of directors of Amecco Chemicals, Inc., Rochester, N. Y.,

W. E. SCHEER

manufacturer of synthetic organic chemicals. He has been general sales manager for several years and will continue to make his headquarters at the company's New York office.

Dr. Lederle Joins Ciba

Dr. Howard Lederle, formerly of Carrol Dunham Smith, is the new medical director of Ciba Pharmaceutical Products, Inc.

At the dinner celebrating Pacquin's twenty-fifth anniversary, John H. McShane, president of Pacquin, Inc. is at the head of the table and Theodore Seltzer of Bengue, Inc. is at his right.

made with the exactness of a prescription

MONSANTO SULFANILAMIDE

Monsanto uses the same infinite care in manufacturing Sulfanilamide that a pharmacist employs in compounding a prescription.

Monsanto Sulfanilamide, U.S.P. (para-Aminobenzene Sulfonamide) is the result of painstaking research and carefully guarded manufacturing. Laboratory tests are made constantly upon production samples to assure uniform purity. There is no margin for error.

Pharmaceutical houses are invited to send for prices and samples. MONSANTO CHEMICAL COMPANY, Organic Chemicals Division, 1700 South Second Street, St. Louis 4, Missouri. District Offices: New York, Chicago, Boston, Detroit, Charlotte, Birmingham, Los Angeles, San Francisco, Seattle, Montreal, Toronto.

MONSANTO CHEMICALS
SERVING INDUSTRY...WHICH SERVES MANKIND

Dinner to Sir Alexander Fleming

Penicillin producers and scientists of the United States and Canada paid tribute to Sir Alexander Fleming, discoverer of penicillin, at a dinner in his honor at the Waldorf-Astoria Hotel, New York, June 25.

More than 200 leaders in pharmaceutical research and production attended the dinner. Professor Fleming warmly commended both the American pharmaceutical industry and government leaders in his address for their remarkable job in bringing to full realization the germ-killing powers of the miracle drug.

Dr. Vannevar Bush, director of the Office of Scientific Research and Development praised the pharmaceutical industry for making good on every single task it has assumed in this war—particularly that of making penicillin plentifully available for both military and civilian use.

Dr. A. N. Richards, chairman of the OSRD medical research committee was toastmaster and the committee on arrangements consisted of Fred J. Stock of Charles Pfizer & Co., Charles Walker of Merck & Co., and Robert A. Hardt of E. R. Squibb & Sons. Pfizer, Merck and Squibb, all three pioneers in penicillin production, sponsored the affair as host to representatives of some twenty major pharmaceutical concerns.

Ketchum & Co. Buys E. J. Barry

Ketchum & Co., Inc., New York, service wholesale druggists, have acquired full ownership of E. J. Barry, Inc., New York. The Barry company will be continued as a separate operating unit and will retain its present management and personnel.

Ketchum & Co. was founded by the late Victor I. Altshul in 1898 as a retail drug store, and quickly expanded its activities into the field of wholesale drug distribution. The firm of E. J. Barry was founded by the late Edward J. Barry in 1899 as a drug brokerage house, and shortly entered into the wholesaling of drug store supplies.

United Drug Appoints Culver

Justin W. Dart, president of United Drug, Inc., has announced the election of Major Gordon S. Culver as vice-president in charge of retail operations and merchandising. United Drug, Inc., owns and operates the Owl Drug and Sontag Drug Stores on the West Coast.

Major Culver, recently released from active duty with the Army Air Force, in ATSC and played an important role in organizing and directing activities of the supply division engaged in equipping and supplying our superfortresses for their Far Eastern operations.

Prior to his Army service, Major Culver was connected with the Walgreen Co. of Chicago.

George W. Merck, president of Merck & Co.; Sir Alexander Fleming; Carleton H. Palmer, chairman of the board of E. R. Squibb & Sons, and John L. Smith, president of Charles Pfizer & Co.

Fritzsche Advances Two Men

At a special meeting of the board of directors of Fritzsche Brothers, Inc., held June 12, two of the company's younger executives were elected to

GUS WOHLFORT

higher rank. Gus Wohlfort, credit manager, was elevated to the newly created office of comptroller and Daniel

DANIEL A. NEARY

A. Neary was made assistant secretary, a post which has remained unfilled since John H. Montgomery was made vice-president-secretary.

Mr. Wohlfort has been associated with Fritzsche Brothers, Inc. for twenty years and Mr. Neary has been with the company since 1933.

Monsanto Advances Men

Dr. Earl W. Gluesenkamp and Dr. James H. Lum have been appointed assistant directors of research of Monsanto Chemical Company's Central Research Laboratories, Dayton, Ohio.

Dr. Gluesenkamp, formerly group leader in charge of synthetic detergent investigations, was placed in charge of all organic chemistry research groups, while the responsibilities of Dr. Lum, director of two war research projects, were extended to include all inorganic chemistry research, physical chemistry research and physics research.

From left to right: Eugene Mane of V. Mane Fils, Bar-sur-Loup; D. A. Bennett, Albert Verley & Co.; Prof. L. Palfray, Institut Catholique, Paris; Otto Baptist, Albert Verley & Co.; and Dr. Sebastien Sabetay, Neuilly-sur-Seine at a luncheon given by D. A. Bennett at Claridge Hotel, Paris, May 26.

Halm Joins Harrower

C. A. Halm has resigned as plant superintendent of Nutrition Research Laboratories, Chicago, to accept a position with The Harrower Laboratory, Inc., Glendale, Calif.

Merrell to Extend Research

The Wm. S. Merrell Co., Cincinnati, is planning to expand its present research facilities and to erect a new building devoted to work on antibiotics. Extension of one of the present laboratory buildings will double the company's facilities for pharmaceutical and biochemical research and for control assays. Construction of this new wing is now under way and work will start immediately on the new anti-biotics building.

Atlas Powder Extends Research

An appropriation of $400,000 for the construction of new units to expand the Wilmington research facilities of Atlas Powder Co. has been approved by the directors of the company and application to proceed with the work has been made to the War Production Board. The company's present facilities at its Central Research Laboratories, located at Rose Hill, were completed and opened for use little more than a year ago and are already inadequate.

Standard and Test Solutions Book

Eimer and Amend, New York has issued a booklet, "Standard and Test Solutions", which lists some of the different reagent chemicals, special preparations, drugs and biologicals which are regularly stocked for immediate shipment at the company's New York warehouse, and by Fisher Scientific Co., Ltd., Montreal, and Fisher Scientific Co., Pittsburgh and St. Louis.

J. T. Baker Adds Factory Site

The J. T. Baker Chemical Co. has acquired an industrial site of 275 acres. This acreage is situated in New Jersey along the Delaware River, north of Phillipsburg and its present plant. The site has been acquired as a first step in a post-war industrial expansion.

National Aniline Plans

National Aniline division of the Allied Chemical & Dye Corp. plans the post-war construction of a $10,000,000 chemical plant in Buffalo, N. Y. The company's present plant is inadequate to handle the large number of orders which the company has for dyestuffs, germicides, detergents and pharmaceuticals. One of the new units which will cost about $100,000 is already under construction.

Bennett and Baptist Return from Paris

D. A. Bennett, president, and Otto Baptist, general manager, export division of Albert Verley & Co., returned June 6 from a three-weeks visit to Paris.

Mr. Bennett reports that a shortage of food, hotel accommodations, and the rate of official exchange make a visit to Paris now very difficult and these conditions plus transportation difficulties made travel in France virtually impossible. He found the perfume business in Paris thriving often with queues of buyers in front of shops. Because of this demand and shortages of nearly everything needed for production in Grasse he expects high prices and limited shipments of oils to this country for many months.

While in Paris Mr. Bennett met the executives of V. Mane Fils, Bar-sur-Loup, with whom Albert Verley has been associated for some years.

Royal Manufacturing Advances Moyer

Joseph Weishaus, executive director of the Royal Manufacturing Co. of Duquesne, Chicago branch, has announced the appointment of Sidney L. Moyer as general manager. Mr. Moyer has been assistant general manager for the past six years. Glen H. Hill, sales representative for the past fourteen years, has been named merchandising manager, and Edward J. Bidwell, sales representative for the past sixteen years, has been made central sales manager.

At the Chiris factory, Grasse, France, during the distillation of roses in May are: Benson Storfer, president of Parfums Corday, Inc., New York (third from left); Helen Allen, vice-president at the extreme right, and to her right Ruldolph Storfer, director of Parfumerie Internationale Corday, Paris.

ADVERTISEMENT—*This entire page is a paid advertisement.* *Prepared Monthly by U. S. Industrial Chemicals, Inc.*

U.S.I. CHEMICAL NEWS

July ★ A Monthly Series for Chemists and Executives of the Solvents and Chemical Consuming Industries ★ 1945

Resin-Plasticizer for Urea and Melamine Pinch Hits for Alkyds

Aroplaz 1311 Proves Practical Substitute for Certain Scarce Phthalic Alkyd Resins

Favorable reports from coating manufacturers give evidence that S & W Aroplaz 1311 has proved successful as a substitute resin-plasticizer for use with urea and melamine resins in the formulation of bake-coatings. Introduced not quite a year ago as a replacement for scarce alkyds, this new resin has, after continued observation and testing, shown surprisingly high outdoor durability.

Because urea and melamine resins lack sufficient flexibility and adhesion, they are rarely used alone in baking finishes. Alkyd resins have usually been added to secure these qualities. However, the supply of phthalic anhydride, from which alkyd resins are made, is so scarce that only the very highest military end-use requirements can be met. Moreover, very few resins, other than alkyds having a phthalic content, are compatible with urea and melamine. Those that are compatible usually do not furnish the desired flexibility and adhesion.

High Compatibility

Although free from any phthalic content, S & W Aroplaz 1311 is highly compatible with both urea and melamine resins and, at the same time, imparts required flexibility without inducing excessive softness or lack of resistance. It also works well with nitrocellulose and is being used as a resin-plasticizer in lacquer. With practically all raw materials in scarcity and under some kind of government allocation and control, end-uses still control the availability of S & W Aroplaz 1311, but these are of a far less critical nature than those for phthalic alkyd type resins.

Specifications

Solution	59-61% Solids (in High Solvency Naphtha)
Viscosity (G-H)	S-V
Acid Value of Plastic	25-30
Color (G. H. 1933)	8-10
Wt./gal. at 25°C.	8.2 lbs.

Diversification Keynotes Dodge & Olcott Merger

U.S.I. Management Sees Acquisition of Famous Essential-Oil House Adding Tremendous New Scope to Its Services

In acquiring the assets and business of Dodge & Olcott Company, one of the country's largest essential oil houses, U.S.I. has extended its activities into another important branch of the chemical industry. Dodge & Olcott manufacturers, imports, and distributes a line of products numbering well in the hundreds. The line includes important new insecticide concentrates, as well as a full range of essential oils, perfume bases, flavor bases, etc.

"D & O" Organization Unchanged

No changes are contemplated in personnel or organizational set-up of Dodge and Olcott. It will continue to operate as a separate company under its present management, which is headed by Francis T. Dodge, President and Charles A. Myers, Valentine H. Fischer, and Charles O. Homan, Vice Presidents.

Insecticide Market Looms Large

"D & O" has played a key role in the development of the much-heralded aerosol "bomb", used so successfully by our Armed Forces to rid tents, buildings and airplanes of mosquitoes and other insects. It was this company which first developed a pyrethrum of sufficient purity to be non-irritating and

(Continued on next page)

Photo Courtesy of Westinghouse

The aerosol "bomb" in action. One six inch dispenser contains enough insecticide to end insect life in 150,000 cubic feet of space. The pure pyrethrum extract developed by "D & O" contributed much to the success of these bombs.

Limited Quantities of Indalone Available

As this issue of U.S.I. Chemical News goes to press, limited quantities of Indalone, the insect-repellent which has been used in such large quantities and with such success by the armed forces, are available for civilian end uses.

Prepares Pectic Compounds of Greater Gelling Power

According to claims made in a recently granted patent, pectinic acid of superior viscosity, and therefore superior gelling power, can be obtained in far shorter time and under excellent control, by using enzyme pectase. Following adjustment of the methoxy content of apple pommace extract to the desired percent, the extract was adjusted to pH 6.5, tomato juice serum added, and as acidity developed, the pH was maintained at approximately 6.5 with sodium hydroxide. After addition of the proper amount of sodium hydroxide, pH was dropped to 4.0 by the addition of hydrochloric acid. The mixture was then heated, cooled, and the pectic acid precipitated out with either acetone or ethanol.

Gelling powers of pectic compounds in general depend to a great extent on molecular weight, or degree of aggregation, of the compound. Conventional methods for removal of methoxy groups from pectin largely destroy this aggregation and hence yield products of low gelling power.

New Cellulose Acetate Process Promises Improved Plastics

A New Jersey inventor appears to have found a practical way to take much greater advantage of the high oxidation and moisture resistance of cellulose triacetate than has ever been done in the past. His unique use of low temperatures to make acetates of high acetyl content soluble in acetone, ethyl acetate and other conventional acetate solvents should facilitate the manufacture of a whole range of products with improved chemical, physical and electrical characteristics.

Cellulose triacetate has long been known to have important advantages over the partially acetylated cellulose commonly used in commercial practice. It is more stable to light, oxidation and hydrolysis. It has excellent electrical insulation which is less affected by high humidity. The trouble has always been that it could not be dissolved in ordinary solvents, except chlorinated hydrocarbons whose toxicity and corrosiveness made them impractical. Also, the high melting point of the triacetate, and its lower solubility in plasticizers, required the use of a solvent that could readily be removed.

The new process, on which a patent has just been granted, is founded on the discovery that when the triacetate is maintained in contact with a solvent like acetone at a low temperature (from −10 to −75 C) for a sufficient period, a swelling action occurs. As the swollen gel is warmed to room temperature, it becomes fluid and forms a workable solution.

ADVERTISEMENT—*This entire page is a paid advertisement.*

July ★ **U.S.I. CHEMICAL NEWS** ★ 1945

Dodge & Olcott Merger

(Continued from preceding page)

to function properly in the "bomb". It was "D & O" who first put this extract into large-scale production, thus expediting the whole aerosol program.

This and other "D & O" developments will dovetail profitably with the intensified activities of U.S.I. in the insecticide and insectifuge fields. Indalone, the U.S.I. insect repellent which is now rendering yeoman service in the Pacific, is expected to find rapidly increasing use in peacetime consumer products. Further U.S.I. developments in the insecticide field will channel through "D & O" and contribute to their service in the industry.

Historic Company

Founded in 1798 by Robert Bach, Dodge & Olcott Company is one of the three oldest companies in the United States. It is also one of the most interesting, for its business is truly "global" in scope. Madagascar, Java, China, Egypt are but a few of the far-flung areas of the world from which its imports come. It imports or processes products — ranging all the way from ambergris to wormwood oil — which are obtained from thirty or more different countries. In finished form, these products are sold in an equal number of foreign markets.

Old in years, Dodge & Olcott is young in its approach to modern problems. Perhaps the best example of this is the company's ingenuity in providing practical substitutes for certain imported materials that have been cut off by the war. Mr. Dodge, who is directly related to the original founder of the company, typifies the progressive spirit that pervades the entire organization. It is such progressiveness that has kept "D & O" one of the most respected names in the chemical industry — a name that stands for integrity and high technical proficiency in an extremely complex business.

This new fiber drum, now used by U.S.I. for shipping some of its resin products, has an easy-to-use lever-ring closure which facilitates opening and re-closing.

Tabletting Process Makes Use of Ethanol

The stability of gelatin solutions containing ethyl alcohol increases with the acidity, reaching a maximum at pH 2.5, according to a recently translated German paper. Solutions of gelatin in alcohol, used in making phenacetin and lactose tablets, exhibited binding capacities equal to common gelatins but with a prolonged dissolving time. Decided advantages were found in tabletting ascorbic acid, citric acid, ephedrine-hydrochloride, basic aluminum acetate and iron lactate and tartrate. Alcoholic gelatin was also recommended for the manufacture of absorbing sugar tablets, but for mixtures of sucrose with cocoa, the aqueous solution is preferred.

Gel-Resistant Zeins Yielded by New Process

Present-day methods of extracting zein from corn gluten give a product which, unless specially treated, has a strong tendency to thicken or gel in storage. The reason, according to the inventors of a new process, is that the 80 per cent alcohol solution used extracts undesirable floc-forming proteins along with the zein. Removal of these proteins, as well as unwanted coloring matter and oil, has been both difficult and costly.

The new process is claimed to markedly reduce the extraction of these impurities by the use of a 40 to 65 per cent solution of ethanol and water.

Another feature of the new process is the treatment of the recovered zein to increase its solubility in various solvents with which it is ultimately to be used. This is accomplished by oxidizing the zein in the extract with an agent such as chlorine.

TECHNICAL DEVELOPMENTS

Further information on these items may be obtained by writing to U.S.I.

A new wetting agent, said to leave no surface film or streaks and to require no polishing, is offered for use on glass, porcelain or metal. The penetrating effectiveness of this new detergent is attributed to its action in lowering the surface tension of matter adhering to the surface. **(No. 953)**

USI

To improve adhesion of gummed paper products such as tape, labels and postage stamps a new additive for the moistening water is offered. It is claimed to produce stronger, more uniform seals, to eliminate curling and to speed the output of sealing machines. **(No. 954)**

USI

A resin adhesive is announced as the first commercial development solely from furane derivatives. The new adhesive is claimed to bond at room temperature, to require no contact pressure and to be completely resistant to water, alcohol and gasoline. **(No. 955)**

USI

Longer-lived pickling baths are promised by the manufacturer of a new acid inhibitor, designed to protect the base metal and confine the action of the acid principally to scale and oxides. **(No. 956)**

USI

Termite control, lasting five years, is promised by a manufacturer who says government reports show his product to be highly effective in the termite control field. **(No. 957)**

USI

A new emulsifying agent, described as being non-toxic and edible, is suggested as a replacement for diglycol laurate in the preparation of pharmaceuticals, cosmetics, foodstuffs, and as a shortening base. **(No. 958)**

USI

Fire-extinguishing foam, made from soy beans, is described as being capable of smothering the toughest petroleum and chemical fires. Five gallons of the product are said to produce 900 gallons of smothering foam in a few seconds. **(No. 959)**

USI

Flame-resistant plastics, of cellulose acetate, are announced with the statement that they are heat-and-humidity resistant, tough, colorable and may be molded by the injection process. **(No. 960)**

USI

A fire-retardant coating, bone-white but tintable, for use on wood and other combustible materials, is claimed to offer exceptional coverage. One gallon is said to cover 185 sq. ft. with two coats. **(No. 961)**

USI

Faster varnish production is promised by the processor of a new linseed oil which is claimed to polymerize instantly, thus reducing the cooking time. **(No. 962)**

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Specially Denatured—all regular and anhydrous formulas
Completely Denatured—all regular and anhydrous formulas
Pure—190 proof, C.P. 96%, Absolute
*Super Pyro Anti-freeze
*Solox Proprietary Solvent
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ACETIC ESTERS
Amyl Acetate
Butyl Acetate
Ethyl Acetate
OXALIC ESTERS
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Diethyl Oxalate
PHTHALIC ESTERS
Diamyl Phthalate
Dibutyl Phthalate
Diethyl Phthalate
OTHER ESTERS
*Diatol
Diethyl Carbonate
Ethyl Chloroformate
Ethyl Formate

INTERMEDIATES
Acetoacetanilide
Acetoacet-ortho-anisidide
Acetoacet-ortho-chloranilide
Acetoacet-ortho-toluidide
Acetoacet-para-chloranilide
Ethyl Acetoacetate
Ethyl Benzoylacetate
Ethyl Sodium Oxalacetate
ETHERS
Ethyl Ether
Ethyl Ether Absolute—A.C.S.
FEED CONCENTRATES
*Curbay B-G
*Curbay Special Liquid
*Vacatone 40

ACETONE
Chemically Pure
RESINS
S&W Ester Gums—all types
S&W Congo Gums—raw, fused & esterified
S&W *Aroplaz—alkyds and allied materials
S&W *Arofene—pure phenolics
S&W *Arochem—modified types
S&W Natural Resins—all standard grades
OTHER PRODUCTS
Collodions — Ethylene
Ethylene Glycol — *Indalone
Nitrocellulose Solutions — Urethan

*Registered Trade Mark

Woman Ch. E. Joins Stearns

Mary C. Worsham, first woman chemical engineer in the entire Sterling Drug, Inc. organization, has joined the staff of the Frederick Stearns & Co. division, Detroit.

Graduated last February from the University of Michigan with a BSE degree, Miss Worsham is on the factory manager's staff.

Dr. Stine Retires from Du Pont

For reasons of health, Dr. Charles M. A. Stine retired June 30 as a member of the executive committee of E. I. du Pont de Nemours & Co. and as its advisor on research and development. He will retain his positions of vice-president and director.

Synfleur Opens N. Y. Laboratory

Synfleur Scientific Laboratories, Monticello, N. Y., has established an experimental laboratory at its New York office, 509 Madison Avenue. Ernest Remley who makes his headquarters at the New York office is manager of the metropolitan district for Synfleur.

William Lakritz, vice-president of Florasynth Laboratories, took time off from a business trip through the southern states, to bring in a 92", 67 pound "fighting fla."

Breck Back

John H. Breck, Jr., treasurer of John H. Breck, Inc., Springfield, Mass., has received a discharge from the United States Army Air Force under the point system and has returned to his work. Mr. Breck joined the Army in April, 1942. He was stationed in England for nineteen months as a bombardier with the 8th Air Force, and took part in the air offensive in Europe. Mr. Breck returned to the United States in April of this year, and was a first lieutenant when discharged.

Cordle Directs Iodine Bureau

Harry J. Cordle has been made vice-president and director of the Iodine Educational Bureau. Mr. Cordle succeeds Herbert C. Brewer, who has resigned to devote more time to the business of the Chilean Nitrate Educational Bureau.

Mona Manet with Lelong

Mona Manet has been appointed director of cosmetics for Lucien Lelong, Chicago. Miss Manet was the founder and president of Mona Manet, Inc., beauty salon and cosmetic house formerly in New York.

Grandson to Al Mullen

A. E. Mullen of Allied Products, Inc., has announced that he has a new fishing pal—a well-built lad who seems to have a good disposition, a mass of blond curls, blue eyes, and who weighs six pounds eight ounces. His mother is Edith J. Thompson, Mr. Mullen's daughter.

Knight Heads Cosmetic Merchandising

Max Knight has been placed in charge of the Walgreen Drug Stores cosmetic merchandising. He started with the Walgreen organization in Chicago in 1929, and subsequently worked for the company in Tulsa, Memphis, St. Louis and New York before returning to Chicago in 1934 to become an assistant in the work he now manages. For many years he was connected with Harriet Hubbard Ayer in charge of Chicago sales and of chain store sales throughout the country, leaving to join the army in 1942 as a private. He had attained the rank of captain when he received a medical discharge last August.

Reynolds Metal Expansion

In order to speed the production of extruded aluminum, the Defense Plant Corporation will expand and modernize its extrusion plant in Louisville, Ky., at a cost of $2,000,000, it has been revealed by R. S. Reynolds, president of Reynolds Metals Co., operator of the plant.

Evans Shipping from Waterloo

Commercial shipments of distilled thioglycollic acid in concentrations of 90 to 95 per cent as well as ammonium thioglycollate in the same concentrations are now being produced by the Waterloo plant of Evans Chemetics, Inc., New York.

Stock Elected Pfizer V.P.

Fred J. Stock, former chief of the Drugs and Cosmetics Division of W. P. B., who recently entered the employ of Chas. Pfizer & Co., Inc., was on June 14, elected a director and a vice-president of the company.

Hooker Changes Top Officials

H. M. Hooker, former president of the Hooker Electrochemical Co., has been elected chairman of the board and E. R. Bartlett, former executive vice-president, has been made president.

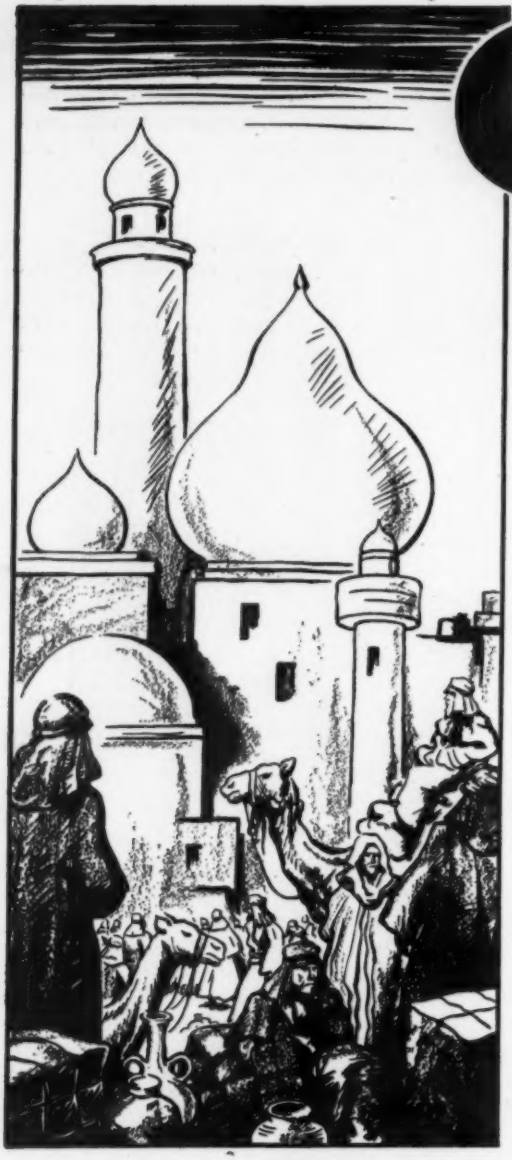
EDWIN R. BARTLETT

Mr. Hooker, a graduate of the University of Rochester, joined the company in 1913 as superintendent of construction. He became sales manager in 1918 and in 1922 was elected vice-president in charge of sales and at the same time was appointed to the board of directors. In 1938 he succeeded his brother, the late Elon Huntington Hooker, as president of the company.

Mr. Bartlett was graduated from Dartmouth College in 1904. His association with the company began in 1907 with the Development and Funding Co. which later became the Hooker Electrochemical Co. He has held various positions with the company becoming a director in 1925 and in 1935 being elected vice-president and works manager. He has been executive vice-president since 1941.

Hosking Joins Revlon

Arthur N. Hosking, Jr., has been appointed general sales manager of Revlon Products Corp. Mr. Hosking recently resigned as vice-president of John B. Stetson Co., Philadelphia, and Stetson Hats Inc., New York. Before entering the hat business five and a half years ago, he was divisional sales and advertising manager of Talon, Inc.



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KARAYA
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ORBIS GUMS, whole or powdered, are the products of expert experience of forty-five years standing in the selection of fine raw materials and in milling to guarantee complete satisfaction for your most exacting technical requirements.

ORBIS GUMS can be obtained in any mesh from the finest powder to the various granular forms used to a great extent in the drug field—ground in our modern mill at Newark, New Jersey.

ORBIS KARAYA GUM in fine powdered form is specially adaptable for "Wave Sets."

Please let us know your requirements. Working samples upon request.

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Water Soluble Gums	Waxes	Cosmetic Raw Material	Fruit Flavors
Thymol	Stearic Acid	Oleo Resins	Food Colors
Aromatics	Essential Oils	Perfume Bases	Quince Seed
Rice Starch	Zinc Oxide French	Olive Oil	Irish Moss

Black Made Superintendent

William A. Black has been appointed superintendent of Richard Hudnut, and will direct and coordinate all the activities of the production division. Mr. Black joined William R. Warner & Co., Inc., in 1921 as a control chemist. Later he was in charge of the Warner pharmaceutical manufacturing department and from there was promoted to assistant plant manager.

Want an Agent in Egypt?

The Smaga Co. with branches in Alexandria and Cairo, Egypt, is prepared to act as agents and distributors for American manufacturers of cosmetic and pharmaceutical products. The Cairo office of the company is at 26 Cherif Pacha St., P. O. B. 125.

Accounts Wanted in London

Leon Chafir, 17 Queen Anne St., London W.C.1, England, is interested in representing in Europe American manufacturers of cosmetic products.

Italian Representative

Consorzio Neoterapico Nazionale, Via de Priscilla, 101, Rome, Italy, wishes to represent American drug and cosmetic companies in Italy. The company has been producing pharmaceutical specialties for the past twenty years and distributing them through its own sales organization. It is equipped to finish any products, raw materials for which are supplied.

M. M. Sterling

Montaigu M. Sterling, president of E. Fougera & Co., New York, died at his home in Wilton, Conn., July 9 after a short illness. He was sixty-two years old.

Mr. Sterling was a former president of the National Council of American Importers, an officer of Donalds Ltd., Inc.; Fraisse Laboratories, Inc.; Kaylene, Inc.; Mervay, Inc.; Noxacorn Co., Inc.; Pastival, Inc.; and the Westcott Electric Casting Corp. and a trustee of the Union Dime Savings Bank.

He was an officer of the French Legion of Honor and a life member and former vice-president of the French Chamber of Commerce in the U. S.

Martin J. Gallagher

Martin J. Gallagher, a member of the staff of the Proprietary Association from 1916 until his retirement April 30, 1945, died in St. Louis June 26 as the result of a heart attack. Before joining the association's staff he was secretary to a member of Congress.

Continental Can Adds Plant

H. A. Eggerss, vice-president in charge of the paper division of the Continental Can Co., Inc., has announced addition of a plant at Watertown, N. Y.

The property consists of a modern 60,000 square feet, two-floor concrete factory building, served with a railroad siding to accommodate six cars. Local factory personnel were hired and trained and the first carload of cans was shipped April 10, within thirty days after the property was acquired.

Northam Warren, president of Northam Warren Corp., greeting John C. Gambles, chairman of the company's English branch, on Mr. Gambles' arrival from England by plane.

Frederick C. Renner

Frederick C. Renner, general manager of sales of Monsanto Chemical Company's organic chemicals division died of heart disease June 25 at Deaconess Hospital, St. Louis, after a long illness. He was forty-four years old.

FREDERICK C. RENNER

Mr. Renner had been seriously ill since last December 28. He was a native of Pirmasens, Germany, and came to this country with his parents as a boy. He was educated in public schools of St. Louis and at Washington University, from which he received a B.S. degree in 1922.

After teaching at Washington University for a year, Mr. Renner joined Monsanto's St. Louis sales staff in 1924. He was assistant branch manager of the company's Chicago office, 1928 and 1929, and for the next ten years served as assistant sales manager of Monsanto's Merrimac division, with headquarters at Everett, Mass.

In 1939 and 1940, he was assistant general branch manager of Monsanto's New York office, and in 1941 and 1942 assistant general sales manager of the organic chemicals division with headquarters at St. Louis. Mr. Renner's promotion to the position of general manager of sales of the organic chemicals division followed in 1943.

Dragoi Batzouroff

Dragoi Batzouroff, senior partner of the firm of Batzouroff & Co., the largest distillers of essence of rose in Bulgaria, died June 18 at the New York Hospital, after a brief illness.

For more than twenty-five years he made an annual visit to his representatives, George Lueders & Co., and it was on one of these visits that he arrived here in November 1939, intending to stay for about six weeks. Subsequent developments made it impossible for him to return to Europe.

LURE THE EYE
to clinch impulse sales

She didn't intend to buy a tooth brush when she went to the druggist's for the baby's soap... Smart packaging that lends itself to good display sold her. Likewise, crackers were not on her list when she left home for the grocer's. But that package of fig bars said "Have some" so temptingly that she just couldn't resist.

Such impulse purchases make up an important part of most manufacturer's sales — and there is nothing that can promote them more effectively than an eye-catching package.

Sound selling does not end at the point of purchase—neither does good packaging. You will find, therefore, that packages wrapped on our machines also offer the utmost protection to the product—are firmly sealed to shut out dust, moisture and contaminating odors... In short, they have every feature necessary to keep the product in first-class condition from the factory to the home.

PACKAGE MACHINERY COMPANY
Springfield 7, Massachusetts

30 Church St., New York 7 • 111 W. Washington St., Chicago 2
101 W. Prospect Ave., Cleveland 15 • 443 S. San Pedro St., Los Angeles 13
32 Front St., W., Toronto 1

Write for our booklet "Sales Winning Packages"

PACKAGE MACHINERY COMPANY
Over a Quarter Billion Packages per day are wrapped on our Machines

Production Forum

By Francis Chilson

Industrial Consultant

Tolerances in Tablet Counts

I was interested in making a survey recently to discover what, if any, tolerances are allowed by the leading houses on tablet counts of five hundred or more. Some of the largest firms reported that they permit no tolerances whatever. But, it is a fact that the human element will cause some variation in spite of careful paddling and the most rigid supervision. One firm which makes a fetish of accuracy and which paddles all counts over one hundred, reported that they had more complaints from the Army from short counts than for any other reason. Apparently, the Army has a system — a sort of pharmaceutical KP duty — under which they punish some buck private by making him count out tablets. But, if the recheck is to be accurate, it would have to be done by two people, and I suppose the Army does double check.

One firm reported that they didn't permit any tolerances, yet they went on to say that they paddled only the more potent drugs; the rest were packaged by weight. Weighed tablets are bound to vary in count.

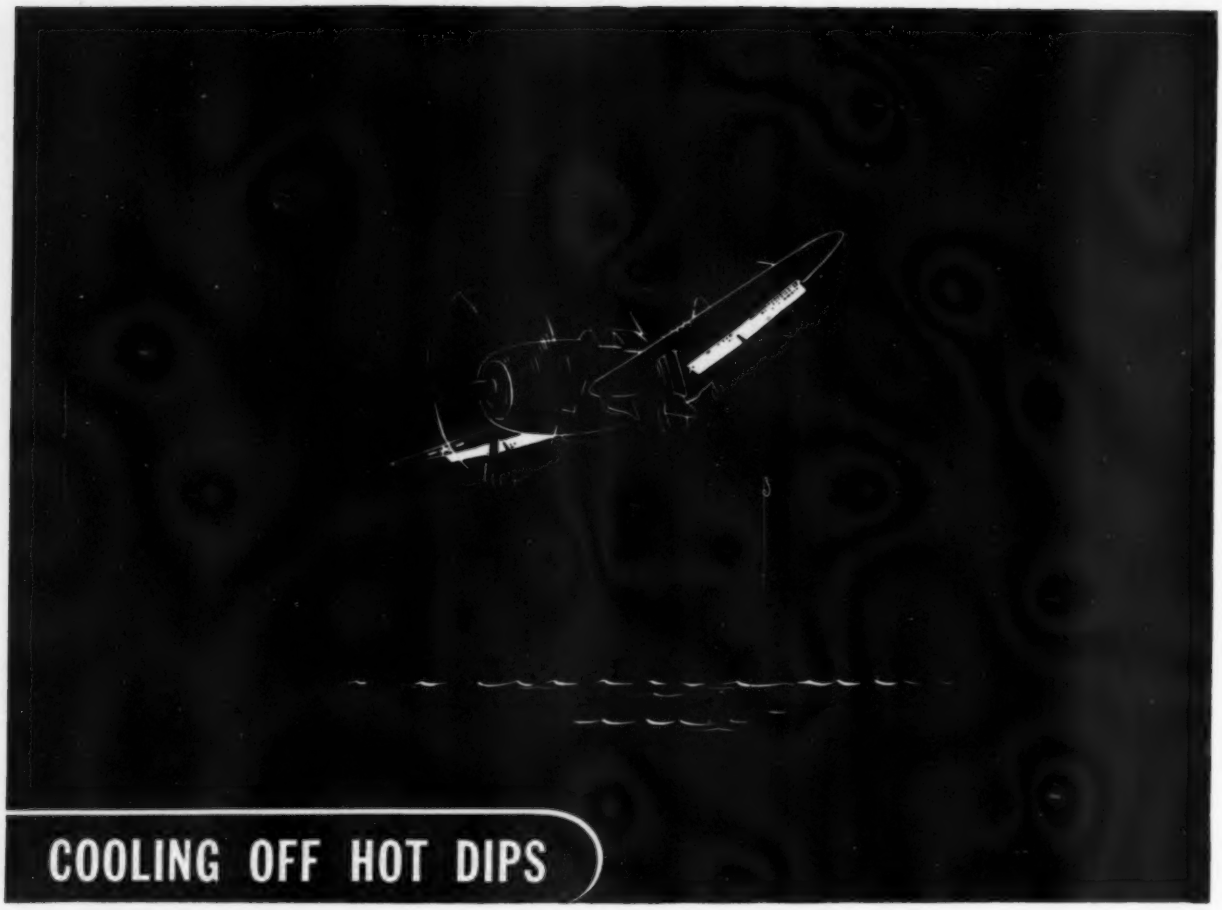
In still another part of the country where tablet counts over five hundred are counted directly from the presses, one firm reported that the government inspectors had felicitated them for maintaining greater accuracy than any of its competitors. Yet, tablet counting direct from the machines is not accurate unless the tablets are kept under mechanical control immediately after they are ejected from the dies. In this particular case, recounts show that out of every forty bottles counted, thirty-two are "dead on", the other eight vary between one to two tablets plus or minus.

I have never been an exponent of packaging tablets at the machines because of quantity variations; the extra handling of packaging materials into the tablet department and the general disorder such a procedure creates. Neither am I an exponent of counting tablets in quantities over two hundred and fifty. I think it is a cock-eyed procedure. Bulk tablets should be sold by weight. This is especially true of the run-of-the-mill drugs. Weighing is quicker, but both methods are subject to variation. If you sell by count you will get a variation in weight; if you sell by weight, you will get a variation in count. If the proponents of mechanical-on-the-press-counting are right in their contention that it is not humanly possible to count tablets by means of paddles and always have "dead on" accuracy, then it is only common sense to say that if the operation involves an inherent variation due to human or mechanical conditions, it follows that the best and simplest way to package bulk tablets is to weigh them.

Air Conditioning

Right now, when you are sweating your whatsis off, a discussion of air conditioning might be helpful. There are more differences of opinion as to how air conditioning should be accomplished than there is in connection with any industrial subject. It's a tough assignment to buy air conditioning equipment unless you are an engineer skilled in the art because the competition is so fierce that the manufacturers of the equipment will chisel either on the design conditions or on the conditions to be maintained in order to submit a bid low enough to capture the job. After that, if the system doesn't work the adjustments and the dickering begins, and the amount of tonnage which should have been present in the first place is added—at the buyer's expense, of course.

And from my own observation most industrial air conditioning systems do not work. I am thinking not of comfort conditioning such as you encounter in an office or laboratory in connection with which a considerable variation in conditions may occur without being noticed, but of industrial air conditioning where the maintenance of a specific dry bulb temperature and a specific maximum relative humidity percentage is vital. When it is necessary to maintain a low relative humidity at all times regardless of outside or design conditions, I am convinced that it can be done by any kind of mechanical refrigeration. Theoretically, it should be possible to condense water out of air by means of refrigeration. Actually, the condensation does



COOLING OFF HOT DIPS

Another result of industrial refrigeration

WHEN a fighter pilot dips in for the deck, he's coming in hot . . . plenty fast . . . he either cools off speed with wing flaps *down* . . . or, he's heading for trouble . . .

And the electrolyte in which aluminum—for wing flaps or window sash—is dipped must be cooled off, too . . . or, there's trouble ahead.

In anodizing aluminum or aluminum alloys, the uniformity of the thin 1/10,000th inch oxide film . . . its toughness . . . corrosion- and abrasion-resistance . . . strength of primer paint bond . . . are all dependent, in large measure, on *controlling* bath temperature.

So, here's another important job for G-E Condensing Units! Preventing the electrolyte in anodizing tanks from reaching excessively high temperatures.

And *cooling off hot dips* . . . in many a chemical or metallurgical processs . . . means smoother, more economical, more efficient production . . . with fewer bugs popping up to plague operating engineers and management executives.

G-E Condensing Units can be counted on to do a *quality* job . . . to respond to close, automatic temperature control for any liquid. So, if the problem of cooling a fluid is facing you now . . . or is listed among your postwar projects . . . *turn to G E!*

Our specialized engineering techniques . . . industrial refrigeration and air conditioning experience, skills and research are at your service. You can tap this source—without obligation—by simply writing:

General Electric Company, Air Conditioning Department, Section 5047 Bloomfield, New Jersey.

☆ ☆ ☆

BUY . . . and hold . . . WAR BONDS

GENERAL ELECTRIC

Industrial Refrigeration

Tune in: The "G-E HOUSE PARTY," every afternoon, Monday through Friday, 4 p. m., E W T, C B S . . . The "G-E ALL-GIRL ORCHESTRA," Sundays, 10 p. m., E W T, N B C . . . "THE WORLD TODAY" News, Monday through Friday, 6:45 p. m., E W T, C B S

take place and then the condensed water blows through or freezes on the coils and changes their efficiency—or else the controls go to hell at the wrong time and trouble rises like smoke. There may be some or many industrial air conditioning systems operating without trouble by means of mechanical refrigeration and maintaining low relative humidity conditions, but I haven't seen one.

I am a firm believer in the absorption of moisture through a dehumidifier of suitable type. Water simply will not get through a good dehumidifying unit and I have a number of installations in operation for ten years that have given no trouble. The dehydrated air can then be cooled preferably by cold well water if it is available in sufficient quantities, or by mechanical or steam jet refrigeration if well water is insufficient.

There are a number of pros and cons about the use of steam jet ejectors. Wherever plenty of cold well water is available the use of a steam jet ejector, to my mind, does not make sense. I cannot see the economy of generating steam in order to condense it with water in the steam jet ejector to produce a vacuum and thus secure a temperature differential which will cool the water when natural refrigeration in the form of cool water is available in plentiful quantities.

In soap plants and other plants having plenty of processed steam and limited well water supplies, steam jet ejectors are very economical and relatively trouble free because they are not mechanical in operation.

Mechanical refrigeration finds its greatest and most economical application in instances where steam is not available in sufficient quantities to operate an ejector and natural refrigeration in the form of cold well water is lacking.

Experts on air conditioning are thicker than fiddlers in hell and from the blarney that many of them have been dishing out so long, they will wind up there some day.

Printing and Box Making

One of the perennial discussions that continually crop up is whether or not it is best for manufacturers of pharmaceuticals or cosmetics to print their own labels; to make their own cartons; or to make their own set-up boxes. It is amazing how much difference of opinion there is on this subject. I have found but few cases where it did not pay to have all packaging materials made by people who specialize in such materials. Occasionally the remote location of a given plant might make it difficult to get quick service or force a manufacturer to carry such large inventories of set-up boxes that the cost of warehousing and handling might justify the operation of a box shop or a printing establishment.

These arguments are the ones usually advanced, but not often do they stand analysis. Invariably, the desire to operate a box shop or printing plant is predicted on the inertia of the planning department. If you operate your own shop, your advertising department doesn't have to use too much brain work because, if they want to change copy five or six times after it has been set up, it is easy to do it and no one is the wiser because the extra costs are buried in the overhead. When printed materials are made at outside sources, corrections are changed for, hence, the advertising department has to be on the beam. Likewise, the planning department cannot rush into the box shop and order up some boxes to meet a production requirement which they failed to anticipate, thus breaking down a previously made set up because, in purchasing from outside sources, they have to concentrate on and estimate accurately their material requirements and when they fail to do so, production is held up.

Lots of times printing and box making set ups are continued because the shop is managed by a clever operator who, in order to maintain his department and his job can always produce evidence that his costs are lower than outside prices. He will actually prove this by getting outside prices. This he will do by cleverly obtaining prices from manufacturers who lack certain equipment. For instance, in printing, if you need a six color booklet, your purchasing agent will, if he knows his business, get prices from printing outfits that have six color presses. If the price comes from an outfit which has only two color presses, it is obvious that the job will have to be run three times and the cost thereof will be correspondingly higher. Similarly, if a round set-up box is needed and a price is obtained from a box manufacturer who specializes in square boxes and lacks equipment for making spiral or straight wound tubes, then the prices will be very much higher. In one case, a client was found to be operating a very large printing plant, producing principally almanacs and calendars for which they had special equipment. Obviously, prices obtained from outside printers lacking this special equipment were very much higher. But in this instance, when prices were obtained from printers who had this specialized equipment then the price was very much lower.

I have found cases of print shops and box shops where costs were low because no overhead or only part of the overhead was charged against the department.

But common sense will tell you that the printing, carton and box making business is a mass production job operating on a very narrow margin of profit. In the face of this circumstance, how can anyone maintain that they can operate a shop making relatively small runs at a cost which is competitive with that of outside specialists.

Photographic Labeling

One time I went on an "invention binge" with a couple of well-known inventors in the industry, Howard Sumner of the Norwich Pharmacal Company and Carl Claus of the New Jersey Machine Company. I think any one who knows the three of us would agree that a trio so composed could invent practically anything as long as the "inspiration" held out. The invention which emerged from the vapors, somewhat more clear-

ly than others, was automatic photographic labeling. We were going to pass containers through a sensitizing solution into a dark chamber where the image of the label would be photographed directly on the glass after which the container would be passed through a developing solution and a rinse. The speed of this machine was to be practically unlimited and in the course of a long evening over a white table cloth, we had the thing all designed. Carl or Howard conceived the idea of using the table cloth as a diaper for the cigarette girl or one of them used it for a turban — I have forgotten which — and the results of our collective endeavors were lost. I always have had some difficulty keeping these fellows in line and the stated occasion was no exception.

The idea of the diaper — invention — I mean, was not so bad when you come to think of it and it was brought to mind recently by two unrelated incidents. I met Mr. Claus on the Commodore-Vanderbilt coming back from Chicago. The results were not good. Later, I ran into a friend who had had some overseas duty, who told me he had, when visiting in Switzerland, picked up a container on which the label had been photographed in color. He did not know anything about the process or whether or not it was automatic or hand application, but he insisted that it was unmistakably a photographed container and not a printed container. When you come to think of it, photography on glass is very old. Glass negatives were used before film was invented and it should not take too much genius to make glass positives in color.

Unless you do it first, I will have to summon a convention of Mr. Claus and Mr. Sumner to reconsider this subject. God help me!

1 Kw Megatherm

A new Megatherm with a nominal output of 1 kilowatt, easily portable and of compact design, for high-frequency heating of a wide range of dielectric materials, has been developed by the Industrial Electronics Division of Federal Telephone and Radio Corporation, manufacturing associate of International Telephone and Telegraph Corporation, 67 Broad St., New York 4, N. Y.

Contained in a modern streamlined reinforced steel cabinet, standing 42 inches high, this 1 kilowatt model occupies a floor space only 20 by 24 inches, and is mounted on smooth-running casters furnished with a special lockdown feature which secures the unit at any selected location. The detachable work oven is situated at the top of the cabinet, and is equipped with an inside light and window to permit the operator to view the work during the entire heating cycle.

A foot-pedal switch opens the oven door, leaving the operator's hands free to insert the work in the oven. Application of power to the work is controlled by a simple single or double push-button located on either side of the cabinet. Duration of the heating cycle is controlled by a fool-proof automatic timer, permitting operation by unskilled and non-technical personnel.

The new Megatherm, which has been designated MD-1A is ideally suited for the preheating of plastic preforms, as a basic unit for incorporation into molding presses or into special production set-ups. The flexible output circuit permits processing of an exceptionally wide range of load weights, heights and materials. Preforms are thru-heated, uniformly, in seconds rather than hours, and it has been demonstrated that use of Megatherm megacycle energy will double, and in some instances, treble the production of molded parts. Highly versatile, the unit is well adapted for the sterilization and dehydration of foods, and general purpose thru-heating of wood, rubber, plastics, drugs and foodstuffs.

The new model is equipped with a cord and plug to facilitate installation at any convenient 220 volt, single-phase 60 cycle ac outlet, and supplies 3500 B.T.U. per hour at its operating frequency of 27 megacycles. Other frequency ranges are available for special purposes, and where necessary, the equipment can be provided for use with other power supply systems. Total power taken from the line is 2 KVA, with an overall efficiency of 55% and a power factor in excess of 90%. The easily removable front panel is attached to the cabinet with four screws, providing ready access for maintenance and adjustment. Two easily read dials at the front of the unit indicate operating conditions at all times.

Aha! Easy money! You'll be TWO bottles soon, my little one.
Just pour half in this empty, then fill up with colored water Heh! Heh!
Wait, what's this! One of those seals that'd give me away!
I'm locked on the bottle. The locking ring breaks off and stays on the neck when I'm opened; telltale evidence of tampering.

HO-HO-HO! fooled by a Seal!

If you are proud of your product and don't want its reputation ruined by pilferers and tamperers, look into Pilfer-Proof Seals.

They are better protection against leakers and breathers, too, because they are applied by the Alseco *Rolled-On* method. Tailored to fit each container perfectly. Seal it tighter.

Aluminum for making these better seals may become available again soon. Get complete facts now and be ready.

Trade Mark Reg. ALSECO U. S. Pat. Off.

ALSECO pilfer-proof SEALS

TAILOR-MADE OF ALCOA ALUMINUM

ALUMINUM SEAL COMPANY · 1323 THIRD AVENUE · NEW KENSINGTON, PENNSYLVANIA

How a Piece of STEEL and a Little TIN PROTECT Your Drug Products!

• From laboratory to bathroom, your drugstore items must be protected against many types of damage. These damages include breakage, bathroom moisture, label spoilage.

But . . . trouble can't crawl through steel. So, in the sturdy steel-and-tin can . . . which is more than 98% steel, less than 2% tin . . . you protect your products . . . shut out bathroom moisture . . . guard against accidents of handling.

Yes . . . steel and tin, made into cans, protect your drugstore items, satisfy your dealers, and help to please consumers. Plan *now* to package your products in *cans* when cans become available again.

SELLING THE CAN IDEA TO EVERYBODY!

Look for big full-page, full-color ads currently telling shoppers everywhere how convenient *cans* bring them their favorite products with full quality *sealed in!* More than 26,000,000 printed messages appear this month, in five national magazines and in the magazine sections of Sunday newspapers from coast to coast.

CAN MANUFACTURERS' INSTITUTE, INC., NEW YORK

And that's not all!

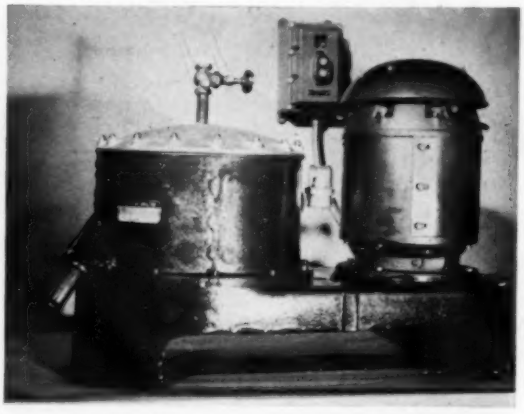
Steel-and-tin cans bring you these added advantages:

1. Labels can be lithographed on cans.
2. Cans don't split or tear.
3. Require no special packing or handling.
4. Cans are light, compact . . . economical to ship, save shelf and storage space.
5. Stay neat and clean.
6. Cans are easy to display attractively.

Asbury Fluid Impactor

The Asbury Corporation, 127 South Main Street, Boylestown, Pa., announce a new type of mill applicable to the desintergrative treatment of all types of Fluid Mixtures.

It employs a specially designed Rotor to produce impact upon a liquid by means of centrifugal force.



A novel liquid seal, which should exceed the life of the bearings and circulating oil pumps with sight gravity feed, have been incorporated into the unit.

The speed range from 3600 to 15000 R.P.M. is the only adjustment, (variable to meet individual requirements) and is easily obtained by changing the motor drive pulley and belt.

For maintenance a completely balanced unit is easily replaced.

Because of the lack of frictional contact, dimensional changes due to low or high temperatures have no effect on the operation of the mill. The discharge outlet, completely immersed in a liquid, has a condenser action. Paints, enamels, sizing compositions, printing inks, latex, sulfa compounds and food products have been successfully treated.

In addition to emulsions the mill is recommended for the dispersion of pigments, clays and fillers and for the treatment of any material which will flow or can be pumped into the mill and the resultant product can be made in one continuous process.

New High Vacuum Recording Gage

An outstanding recent development is a McLeod type recording gage for producing a continuous, visible record of pressure conditions within a vacuum system, between the limits of one and five thousand microns absolute pressure. The unit consists of a modified Stokes High Vacuum Gage, calibrated in microns, combined with a galvanometer type recording unit. The gage is mechanically tilted from the horizontal (normal) position to the vertical (reading) position by an electric motor. The height of the measuring capillary and hence the vacuum in the system is electrically determined, this reading being automatically transmitted to the recorder.

The recording unit may be located at any distant point, but the instrument proper is installed preferably close to the sampling point. The "Vacorder" thus includes an indicating High Vacuum gage at the sampling point and a recording unit at either the sampling point or any other desired location. A similar "Vacorder" instrument, with one recording unit and as many as four indicating instruments is available, to record pressure in sequence on a strip chart.

These gages are true McLeod type instruments similar to the portable indicating gages (Stokes patent) which have been in general use for a number of years; but this is the first time such gages have been combined with a recording unit. They are rugged instruments, designed for hard, continuous service, with a built-in chemical trap which excludes gases and all condensable vapors, including water, oils and alcohol, and assures accurate readings under all conditions. For details write F. J. Stokes Machine Co., Philadelphia 20, Pa.

Portable Dehumidifier

The H. J. Kaufman Company, 13215 Roselawn Avenue, Detroit 4, Michigan calls your attention to their portable dehumidifying unit. This unit uses flake or granulated calcium chloride and is designed especially for small installations.

Efficiency Experts

One of my pet peeves is the efficiency expert who calls himself an engineer. He is all things to all business. How some of the firms of efficiency experts get away with what they do is beyond my comprehension.

What is even more inexplicable is that top managements so seldom see through their little game and are obliged to pay through the nose for a small, if any accomplishment.

These outfits usually get into a business through Mr. Big or some member of the board of directors. Blandly they tell you that on their staffs they have experts in lighting, heating, ventilation, air conditioning, construction, machine design, management, personnel, incentive systems, etc., ad infinitum. It sounds imposing and the services rendered usually turn out to be very costly because the rate quoted for the job is usually based on a per diem or monthly fee *per man*.

Here's how such a firm worked in the plant of a prominent manufacturer. An engineering firm was employed to survey his entire manufacturing set-up. This engineering firm was supposed to supply all manner of engineering specialists. They impressed on this manufacturer the idea that he could expect nothing in the way of concrete recommendation for at least four months as it would take this length of time to do the necessary "research" work.

During the course of the next four months two "resident" engineers were placed on the job at a cost of fifteen hundred dollars per month each, plus expenses. "Experts" appeared on the scene from time to time and

Try "SLUGGING" OR PRECOMPRESSING

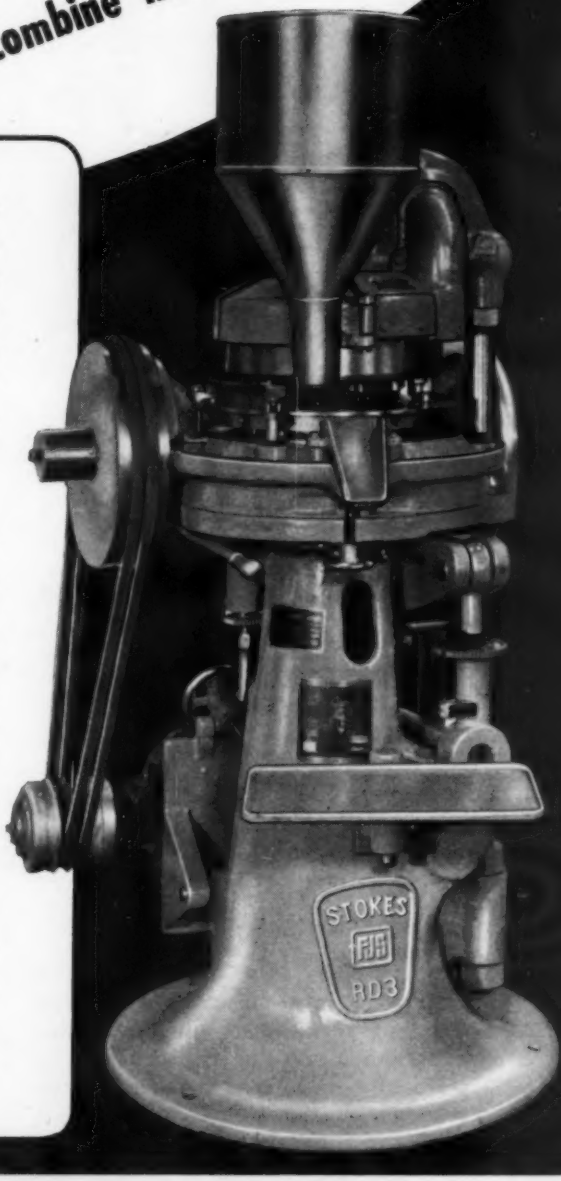
to combine incompatible materials

Your Stokes D-3 Rotary Tablet Machines are ideal equipment for preparing granulations by the "slugging" method . . . often the best, in many cases the only satisfactory method, because it eliminates wet mixing and drying, simplifies the problem of combining incompatible materials and is successfully used in handling heat- and moisture-sensitive and other troublesome formulas.

Your D-3 machines were developed especially for handling fine powders, are heavy and rugged, have a variable speed drive that makes quickly available the most efficient operating speeds for making both "slugs" and finished tablets. They are equipped with our patented Excess Pressure Release to prevent possible damage in precompressing operations.

For further information on precompressing methods or other help on tabletting or preparation of materials or care of machines, write us. Ask for booklet "Tips", to help prolong the life of punches and dies and tablet machines.

F. J. STOKES MACHINE COMPANY
5932 Tabor Road Olney P. O. Phila. 20, Pa.



F.J.Stokes TABLET MACHINES PHARMACEUTICAL EQUIPMENT FJS Est 1895

spent several days at so much per diem. Four months later the manufacturer got a report containing preliminary recommendations.

What he didn't realize, was that this firm of engineers knowing nothing about his business had to spend four months assimilating the manufacturing and packaging problems involved before they could begin to operate. In other words, the manufacturer had to pay for their education. What the manufacturer really got was a series of recommendations based on a study of his business "as it was exemplified in his plant", which obviously was way out of line in the first place or he would not have felt the need of a firm of so-called engineers to study his operations. That first report, incidentally, cost in excess of $15,000.00. That part of the report dealing with his manufacturing, packaging and material handling operations was, in reality, a summary of the recommendations of his own staff. Since his entire staff was reared and trained in that one plant their wishes could have only limited value because only one member of this staff had ever been in any other similar plant.

That part of the report dealing with lighting, air conditioning, power, etc., was really good because there such phases of engineering are the same in principle, and for the most part in practise in every industry. A power plant is a power plant, and differs only in size regardless of whether it is producing steam for the manufacture of pharmaceuticals or producing steam for the operation of a hat factory.

But such is the influence of bankers and of the old school tie that Mr. Big can easily be induced to retain a big name firm of "engineers" and frequently is proud of the fact that he can afford to retain such a firm even though he pays through the nose for their services and gets very little out of their recommendations. Never will Mr. Big admit — to his staff at any rate — that he was wrong.

Most engineering firms operate with "staffs". The staffs usually consist of journeymen engineers who are individually compensated at a rate of $5,000.00 or $6,000.00 a year or less. It is to get the advice of such "experts" that manufacturers frequently pay engineering fees ranging up to $24,000.00 per year per man.

Fortunately, in the majority of industries, there are one or two firms of engineers which make a specialty of these industries and do no business outside of their own particular fields. The cumulative experience of such firms in one industry is obviously very great and they know not only the engineering but the economics of the industry as well. Moreover, they are certain to know more about the particular industry, in general, than any one manufacturer in it. In short, they are specialized experts and they can begin to make recommendations that are really based on first-hand experience and broad knowledge. They begin operating the first day they arrive on the scene. Beware of the "engineering" outfit that has not had unlimited experience in your own industry. Beware of the outfit which proposes to show you beforehand how much they can save by setting up a "reference week" against which they will measure results. That's an old gag and like selling the Brooklyn Bridge, it is still worked on the unwary.

Plastic Containers

Quite recently clear plastic containers were introduced to the trade having been "blown" into molds pretty much as glass is blown. It was inevitable that such a development would occur. I predict that after the war you will see aluminum containers in a multiplicity of shapes which likewise will be "blown" into molds by hydraulic pressure. Round aluminum bottles are available now, but they are spun and this process makes them too expensive excepting for essential oils and cosmetic items. I have a hunch that the postwar aluminum war will result in all manner of interesting containers as well as the one mentioned.

Temperature Control Cabinets

Catalog 325, issued by Precision Scientific Company, 1750 North Springfield Avenue, Chicago 47, Illinois, contains 48 illustrated pages pertaining to "Precision" Freas constant temperature control cabinets, including an extensive variety of standard models, as well as many photographs of constant temperature cabinets and baths built to specifications. Standard cabinets include electrically heated ovens for laboratory drying operations, plastics, preheating, conditioning, rubber aging; sterilizers, incubators, paraffin embedding ovens, low temperature cabinets, humidity control cabinets; steam-heated explosion-proof cabinets carrying underwriter's approval; vacuum ovens and combustion-tube furnaces for laboratory use. Included also is general information pertaining to mechanical and gravity convection heat transfer. Catalog is accompanied by price list.

Oil Remover

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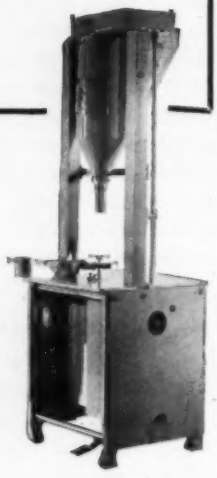

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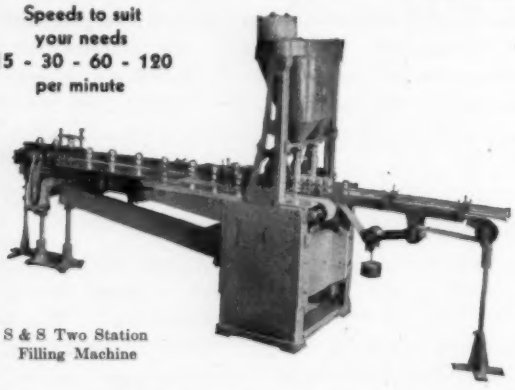

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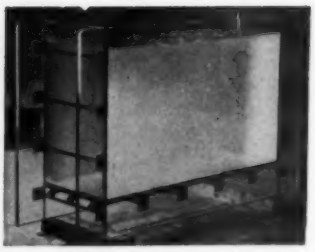

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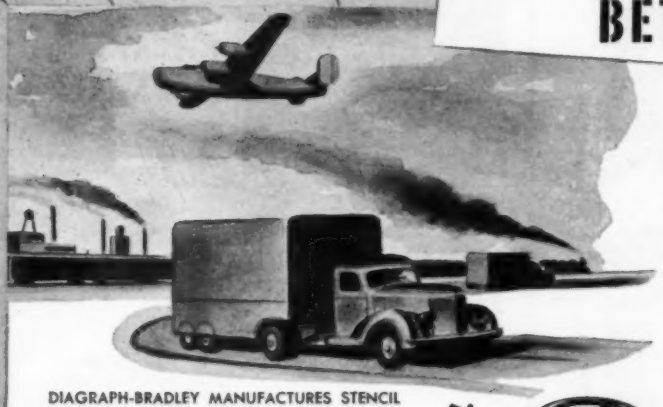

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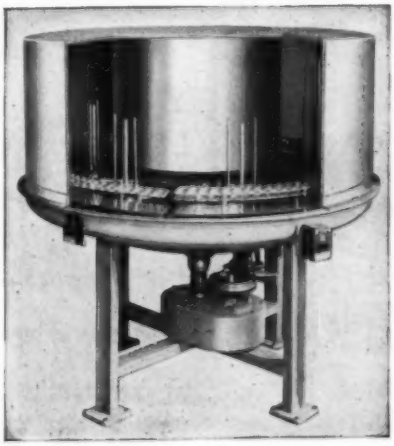

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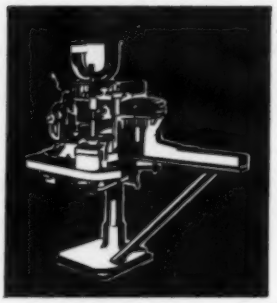

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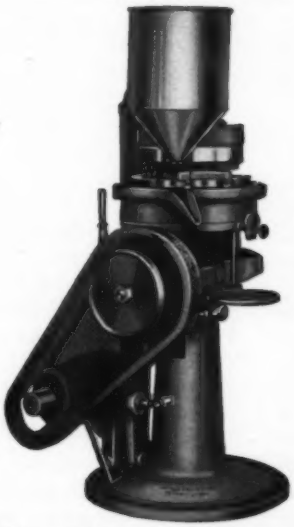

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ADVANCING THERAPY

Sulfamerazine in Pneumonia

The value of sulfamerazine for the treatment of pneumonia is brought out in a report on 200 cases published by I. F. Volini, G. M. Engbring and A. Schorsch in the *Illinois Medical Journal* (87:13, 1945). Blood drug levels were estimated in most cases at least once and daily when the response was delayed. A white blood cell count was made and a urine analysis for *pH*, specific gravity, crystalluria and blood was done. Specific gravity of the urine was taken as a guide for adequate fluid output. The aim was to keep this below 1,015 to prevent renal reactions. A daily fluid intake of 3,000 cc. was encouraged. The authors found that sulfamerazine is more rapidly and completely absorbed and more slowly excreted than sulfadiazine. Therapeutic blood concentration is maintained on smaller doses less frequently administered. The percentage of conjugation is about the same as for sulfadiazine, averaging 11. The value is much higher in cases of toxic nephritis. Clinical results parallel those following sulfadiazine. Toxic reactions are fewer, and this is probably due to the smaller total amounts of the drug required. The average duration of treatment is no longer on the lower dosage schedule. The complications of pneumonia, particularly empyema, were observed much less frequently. Sulfamerazine offers definite advantages over sulfadiazine and possesses equal therapeutic effectiveness.

Vitamin Therapy in Dermatology

In discussing various phases of vitamin therapy in dermatology, M. E. Obermayer and K. Frost (*Arch. Dermat. & Syph.* 51:309, 1945 remark that vitamin A may be beneficial in the treatment of diseases characterized by excessive or abnormal keratinization, either follicular or diffuse, even when the underlying inflammatory dermatosis does not itself appear suitable for this form of therapy. Thus, "striking results" were obtained with the administration of vitamin A in two cases that showed an abnormal degree of keratinization and a complete lack of response to other orthodox methods of treatment. They find that vitamin A therapy has also been of benefit in the handling of some forms of acne vulgaris.

Obermayer and Frost recommend the use of the vitamin B complex for the management of skin conditions in which allergic factors are involved. They feel that the beneficial effects of such treatment may be due to the anti-achlorhydric fraction.

However, the general contention that cheilosis is always a manifestation of riboflavin deficiency and can be made to disappear by the administration of this vitamin has proved to be erroneous. In some cases the condition resists vitamin therapy of any type. There is no doubt that this dermatosis may be due to factors unrelated to the vitamins, such as epithelial hypersensitivity to various substances like lipstick dyes or chewing gum flavoring materials. It is also possible that anatomical factors, such as those which cause increased compression of the lips, may also play a part in the appearance of cheilosis.

Histamine Injections for Migraine

In their preliminary observations on intravenous histamine in the treatment of migraine, S. Butler and W. A. Thomas *J.A.M.A.* 128: 173, 1945) point out that it is generally believed that the phenomenon of migraine is precipitated by the release of histamine into the blood stream as the result of an allergic reaction and that the major attack of migraine develops only in those individuals whose tolerance to histamine is low. Because the clinical phenomena associated with migraine are not due to allergy to histamine in the commonly accepted sense of the word, but rather to a lowered tolerance of the organism to histamine present in the circulating blood as the result of an allergic stimulation, it seemed reasonable to these workers to assume that the tolerance of an individual would be raised more effectively by the long continued injection of histamine than by individual doses of increasing strength.

In their investigations thirty-four patients with severe migraine were treated with intravenous histamine injections. Seven were improved and twenty-four became symptom free. Intravenous histamine should not be given to patients with peptic ulcer or vascular disease and may be dangerous if indiscriminately used.

Three-Hour Scabies Treatment

In their search for a simple and rapid method for treating scabies among Army personnel, S.S. Rubin and H.Blank (*Military Surg.* 96:271, 1945) discovered that a slight modification of the procedure advised by Oppenheim resulted in an effective three-hour treatment, as against the three-day treatment generally used in Army hospitals. The method is as follows: (1) The patient thoroughly scrubs his body for 15 minutes with G.I. soap and a small hand brush, with particular attention to the favorite sites of the scabies mite. The face and scalp are not treated. (2) A warm bath or shower is taken and the body again scrubed with soap for half an hour. (3) The body is carefully dried and then covered from neck to toes with the following ointment; especially covering the burrow sites:

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(4) The patient is then wrapped in a sheet and two wool blankets and placed in bed in a warm room. (5) After two hours the patient takes a shower bath and thoroughly removes all of the ointment with soap. (6) After drying the body well, the patient covers the entire body with a thin layer of zinc oxide paste (Lassar's paste, plain).

During this treatment, all of the patient's clothing, including blankets, are sterilized by autoclaving. In the series of 266 patients so treated, 217 have been observed sufficiently so that it was definitely ascertained that a cure had been effected. Only 5 patients developed a moderately severe dermatitis from this method of treatment.

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Thiouracil for Angina Pectoris

Thiouracil, a comparatively new drug, has been finding growing use in the treatment of thyrotoxicosis and as a substitute for total thyroidectomy. Since total thyroidectomy has proved effective in the treatment of angina pectoris, W. Raab *J.A.M.A.* 128:249, 1945 decided to try its theoretical substitute, thiouracil, for the treatment of this very painful condition.

Treatment with thiouracil proved effective in 7 out of 10 patients with angina pectoris, 4 of whom became entirely symptom free during the treatment. One patient was only slightly improved. Two patients remained unimproved and died from coronary occlusion. Clinical improvement coincided rather closely with the fall of the metabolic rate and failed to occur in those patients whose basal metabolic rate did not decrease. Replacement of thiouracil by placebos without the patient's knowledge was followed by a partial or complete recurrence of the anginal symptoms, coinciding with a return of the basal metabolic rate toward its former level within ten days to seven months following discontinuation of the thiouracil medication.

Nebulized Sodium Sulfathiazole for Bronchial Lesions

Fifty patients with infectious bronchial lesions, who had failed to respond to other types of therapy, were treated by I. L. Applebaum by inhalation of nebulized sodium sulfathiazole. Writing in *Diseases of the Chest* (10:415, 1944) he reports that a 5 per cent solution of sodium sulfathiazole was placed in a nebulizer, and this was connected by a rubber tube to an oxygen tank equipped with a flow meter. A rate of flow of 4 liters per minute was found satisfactory. The patient held the nozzle of the nebulizer between the teeth and breathed with the mouth open for a period of twenty minutes. Treatments were administered three times daily for an average of ten consecutive days. It was determined that approximately 2 cc. of the solution was utilized in a single treatment. Definite improvement resulted in 43 of the 50 cases treated. This preliminary survey indicates the promising therapeutic possibility of sulfonamide nebulization in a resistant type of respiratory infection.

Penicillin by Mouth

Probably the chief disadvantage in the use of penicillin has been the need for giving this effective agent by injection. There have been an increasing number of reports, however, that given under suitable conditions or in proper combination with certain other materials, penicillin could be effective by mouth. A comprehensive investigation of this mode of administration was undertaken by P. Gyorgyi and his associates and some very significant information was obtained. Their conclusions, as published in the *J.A.M.A.* (127:639, 1945), were as follows:

1. Penicillin given by mouth in combination with a suitable buffer salt, such as trisodium citrate, was found to be therapeutically effective in a number of cases of gonorrhea and other diseases.

2. The effective doses were comparable to the doses routinely used in parenteral administration.

3. Combination of penicillin and sodium citrate given by mouth produces greater and more prolonged increase of penicillin blood levels than penicillin ingested without a buffer salt.

Plasma as Penicillin Vehicle

In a new approach to the local administration of penicillin, E. C. Cutler and W. R. Sandusky (*Surgery* 16:937, 1944) have used dehydrated human plasma as a vehicle for the antibiotic. In their procedure, the sodium salt of penicillin is mixed under sterile conditions with dehydrated plasma. From 10,000 to 20,000 units of penicillin to 0.2 Gm. of plasma is a desirable proportion. The plasma tends to be lumpy, but gentle stirring reduces it to a light fluffy powder. Penicillin is added, and after gentle stirring a homogeneous mixture is obtained. Uniform distribution of this mixture is accomplished by means of a powder insufflator. When sprayed on a wound surface, the penicillin-plasma mixture immediately goes into solution and the tissues become yellow. Complete hemostasis must be attained before insufflation; otherwise the mixture will be washed off. It has been observed that 0.2 Gm. of plasma is sufficient for fine frosting of a surface 100 sq. cm. in area. This method of local penicillin therapy has demonstrated its superiority over previous methods used.

Burn Ointment for Children

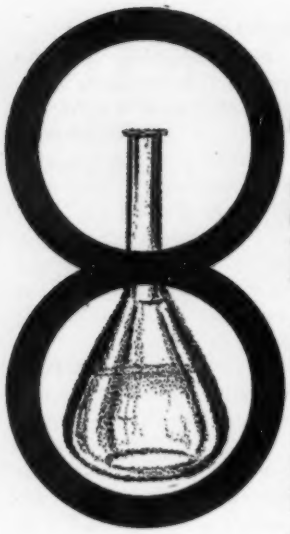
In a communication to the *British Medical Journal* (1:566, 1945), P. D. A. Durham and A. Rae draw attention to a dressing that has been found to be of considerable use in the treatment of burns and superficial septic wounds in children. The ideal criteria for such an ointment are that: (a) the ointment should be bacteriostatic) (b) it should be an epithelial stimulant; (c) it should be analgesic.

With these factors in mind, they have evolved an ointment of the following composition: Sulfanilamide 5; urea 20; water-soluble base to 100. After experiment the base found most suitable was one of sodium alginate 10, liquid paraffin 10, water to 100, preserved with phenyl mercuric nitrate 1:600. The advantages claimed are theoretically that: (1) the sulfonamide fraction is enhanced by the destructive action of urea on *p*-aminobenzoic acid, normally present in serum; (2) there is a combined local analgesic and epithelial stimulant effect of the urea; (3) there is an anti-adhesive factor in the base.

Practical experience has shown this ointment to be inexpensive and not to deteriorate on storage and it can be adequately sterilized. The ointment is suitable for dispensing in collapsible tubes for use as an emergency first-aid dressing for first degree burns and for superficial grazes.

Vitamin E and Kidney Function

In a report of the effect of vitamin E on impaired kidney function, E. Shute (Canadian M. A. J. 52:151, 1945) presents observations on 13 women who gave evidence suggesting either chronic nephritis or impaired renal function, such as chronic edema not cardiac in nature or hypertension. In some of the women the impairment of the renal function followed toxemia of pregnancy. Therapy consisted of two weeks' trial of 25 mg. of synthetic alpha-tocopherol per day. At the end of this period, tests were made and the patient examined for clinical improvement. Benefit was obtained in 10 of the 13 women. The histories which are presented indicate that treatment with vitamin E may improve damaged kidney function even when the damage has been of some duration. The improvement develops quickly but is transient unless therapy is continued.



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Compounder's Corner

Antibiotic from Buttercups

Observations that the leaves and stems of some species of Ranunculaceae *appear to have antibiotic properties led B. C. Seegal and M. Holden* (Science 101(413, 1945) *to undertake the study of the antibacterial action of buttercups, members of this plant family. Two types of extracts were prepared. The first, the juice, was obtained by grinding the stems, leaves and blossoms of freshly picked buttercups in a meat chopper, adding an equal weight of water, mixing thoroughly, pressing out the juice through gauze and autoclaving the liquid. The second type of extract called the distillate, was obtained from the juice by steam distillation.*

Bacteriological studies with the pressed juice and the steam distillate from the juice established their strongly antibiotic action and wide range of activity. The buttercup juice has proved effective in vitro *in inhibiting the growth of selected Gram-positive and Gram-negative pathogenic bacteria, tuberculosis organisms, and three yeasts, two of which are potential human pathogens.*

Cetylpyridinium Chloride as Oral Antiseptic

According to C. L. Huyck (*J.A.Ph.A.* Scient. Ed. 34:5, 1945), cetylpyridinium chloride, a quarternary ammonium type germicide, is bacteriostatic or bactericidal to bacteria found in the oral cavity when used in 1:4,000 concentration. Using a recognized method for measuring the bactericidal effectiveness of antiseptics intended for use in the oral cavity, be found that a solution containing 0.025 per cent (1:4000) cetylpyridinium chloride in a base of 18 per cent alcohol, 10 per cent glycerine and about 70 per cent distilled water has a bactericidal efficiency of 90.64 per cent in an average of 21 cases after a period of three hours.

Comparative evaluations showed that the effectiveness of this solution for inhibiting the bacterial growth of the oral cavity after three hours is greater than the effectiveness reported for the National formulary antiseptic solution after one hour, 3 per cent hydrogen peroxide after two hours, and two well-known organic mercurial germicides after two hours.

Anti-Ringworm Powder

According to a note in *The Chemist and Druggist* (143:389, 1945), to prevent reinfection in cases of ringworm of the toenails, a powder prepared according to the following formula is dusted on the toes:

Phenyl salicylate	**1 part**
Chloral hydrate	**1 part**
Sterilized, purified siliceous earth, to make	**100 parts**

Ionic Exchange Resins Purify Penicillin

The selective absorption of inorganic ions by ionic exchange resins suggests the possibility of an interesting method for analysis and purification of mixtures of organic substances obtained from biological materials. Applying this principle to the purification of penicillin, E. Cruz-Coke, F. Gonzoles and W. Hulsen (Science *101:340, 1945*) *have observed that by filtering the crude culture filtrate containing penicillin, first through the cationic resin, Ionac C, at pH 6 to 7, then through the anionic resin, Ionac A, at the same pH, it is possible to obtain a product which retains all the penicillin activity of the original material, but which is now free of any toxicity for experimental animals and for man. The penicillin preparation thus obtained can be concentrated* in vacuo *at low temperature. It seems likely that this simple procedure will be found useful for the purification of other active substances produced by molds and various biological agents.*

Diglycol Chloroformate

A new chemical intermediate, said to fill the need for a nonvolatile, relatively easily handled organic dibasic acid chloride, is announced by the Columbia Chemical Division of the Pittsburgh Plate Glass Co., Grant Bldg., Pittsburgh 19. Diglycol chloroformate is reactive with alcohols or amines to form other organic intermediates and derivatives. A colorless, relatively nonvolatile liquid of mild odor, diglycol chloroformate has properties which suggest useful applications in the field of pharmaceuticals as well as in other industries.

Identification of Thioglycollic Acid

Since thioglycollic acid has become an important component of cold permanent wave solutions, its determination is often necessary. To meet this requisite, J. H. Jones (J. Assoc. Official Agri. Chem. 27:574, 1944) *has suggested an identification test which consists essentially in oxidizing with Normal iodine to dithioglycolic acid, mixing with an equal volume of concentrated hydrochloric acid, extracting with ether, evaporating to dryness, recrystallizing the residue from a 9:1 benzene-ethyl acetate mixture and determining the melting point. As a check, the equivalent weight (theoretically 91.2) can be determined by titrating a small quantity (20 to 25 mg.) with standard sodium hydroxide in the presence of 2 to 3 drops of phenolphthalein indicator. The proposed extraction is not quantitative, but sufficient dithioglycollic acid for identification can be obtained from 0.2 Gm. of thioglycollic acid.*

Lotion for Blepharitis

Several suggestions are given by Harry (*Prescriber* 38:146, 1944) for the local treatment of blepharitis, a common inflammation of the eyelids, especially the lid margins. Among his recommendations is the use of the following lotion for removing scales and crusts from the eyelids:

Sodium bicarbonate	**5 grains**
Boric acid	**10 grains**
Solution of epinephrine	**1 minim**
Distilled water, to make	**1 fl. oz.**

Enteric Coating Patent

A new and improved enteric coating forms the basis of U. S. Patent 2,373,763 granted to R. A. Kuever and P. V. Maney. Typical of the type of enteric coatings described is the following:

Myristic acid	**68 per cent**
Hydrogenated castor oil	**25 " "**
Castor oil	**2 " "**
Cholesterol	**1 " "**
Sodium taurocholate	**4 " "**

Of interest is the fact that this patent has been assigned to the State of Iowa, for the use and benefit of the State University of Iowa.

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U. S. Navy Official Photo.

Tough Paints! Long-lasting paints for war equipment and for widespread industrial and home use have been made possible with alkyd resins, of which glycerine is an important raw material.

Eye Make-up

In his review on eye make-up, K. N. Richardson (*S.P.C.* 18:286, 1945) remarks that everybody knows that the original eyelash cosmetic cakes were made of soap and lampblack. Because ordinary soda soap caused irritation and annoyance when it got into the eyes, a search was made for a milder base and by general consent triethanolamine was substituted. Such a mascara could be made as follows:

Triethanolamine stearate	**30 parts**
Paraffin wax (high m.-p.	**40 parts**
Beeswax	**12 parts**
Lanolin	**8 parts**
Lampblack	**10 parts**

(The method is to melt, mix and mill the ingredients—and afterwards cast or extrude them in stick or tablet form.

This gives the usual black type of mascara. Where a dark brown mascara is desired, the following formula will serve. The triethanolamine soap being formed *in situ*:

White beeswax	**300**
Montan wax	**100**
Stearic acid	**300**
Triethanolamine	**130**
Lampblack	**20**
Burnt umber	**150**

(Melt the waxes and grind in the color in a warm mill. Stir in the ethanolamine and pour into molds.

Cake cosmetics are very easy to apply, so long as they are made with the proper oil-in-water emulsifying agents possessing appropriate wetting properties. They are therefore still the most popular representatives of their class. Even so, formulation is not without its problems. The product has to adhere to the eyelashes when the brush puts it there, it must dry so as not to stain the lower eyelid and, when dry, must not peel off and fall as dust. Soaps possess all these qualities, but to avoid irritation milder triethanolamine stearate is used.

Consistency, gloss and reduced solubility are imparted to the final product by means of substances with a higher melting point: wax, ceresin, etc. Resins and gums may also be added without danger of incompatibility.

As an example of a base, the following French formula is quoted:

Stearic Acid	**28**
Triethanolamine	**14**
Water	**90**
Powdered coloring matter	**25**
Beeswax or ceresin	**25 to 30**

Mix thoroughly, run the mass through a 3-roller mill, then pass it through a small plodder which will produce sticks of the required thickness. Cut lengthwise and allow to dry before stamping out, which can be done by using a bath cube press or an automatic soap stamping machine, duly adjusted and fitted with appropriate dies. The coloring matter may be lampblack or bone black, umber, burnt umber, raw sienna, etc., modified if desired with suitable cosmetic lakes.

More recently there have appeared a number of cream mascaras on the market. These have certain advantages over the cake but also certain disadvantages. It is true that the paste sold is ready for instant use, without the user having to add the necessary water but, at the same time, some people have ideas of their own as to what the consistency of the paste should be. In constitution these newer types are very much the same as the cake type, but with the addition of the requisite amount of water necessary for a paste of the proper consistency before application. A binder is unnecessary in the cream because there is enough soap present to form a strong, stable emulsion.

A reliable cream mascara which does not dry up in the tube and which stays on the eyelashes very well can be made according to the following formula:

Mucilage of quince seeds	**350 g.**
Sugar Syrup	**350 g.**
Gum Arabic	**75 g.**
Ivory black (or earths)	**225 g.**

The gum, the ivory black or the umber, etc., are ground up with the syrup (3 parts of sugar to 2 parts of water), then the mucilage, containing a preservative, like methyl parahydroxybenzoate, is added.

In discussing oil and spirit mascaras, Richardson feels that oil base mascaras are not so satisfactory. In considering the latter type, he states that black mascara preparations are made from 140 parts of good black, such as lampblack, which is finely ground in 210 parts of simple tincture of benzoin (20% strength). Then there are added 12.5 parts of gum lac dissolved in 630 parts of alcohol, 5 parts of castor oil, and 2.5 parts of rose perfume or like. Ordinary mascara in aqueous mixture can be made from 10 parts of lampblack, ivory black or drop black, mixed with 10 parts of powdered gum acacia and rubbed out thoroughly with 80 parts of rose water or orange flower water. Gum acacia may be replaced by 2 parts gum tragacanth rubbed down with 10 parts perfumed alcohol. Chinese or India ink are also used for this purpose.

Spirituous mascaras may contain either rosin or benzoin (approximately 2 per cent rosin or 4 per cent benzoin, on total weight), together with 12 to 15 per cent lampblack, 1 to 2 per cent gum lac, 2 per cent castor oil; and the balance industrial spirit or isopropyl alcohol.

In his opinion, the ideal eye shadow is a product which is fairly hard at room and body temperature, but with enough lubricating material in it to allow for a thin film. Stickiness and "drag" must be avoided. The following are representative formulas for eye shadow:

(1)	**Hydrogenated oil**	**45.0**
	Mineral oil	**10.0**
	Beeswax	**20.0**
	Paraffin	**5.0**
	Ozokerite	**5.0**
	Color	**15.0**
(2)	**Petroleum jelly, short fibre, 43/48° C.**	**23.0**
	Ceresin, 64° C.	**21.0**
	Spermaceti	**3.0**
	Mineral oil 65/75	**53.0**
(3)	**White beeswax**	**4.5**
	Spermaceti	**9.5**
	Lanolin absorption base	**13.0**
	White soft paraffin	**73.0**

From 78 to 85 per cent of such a base is used with 12 to 15 per cent of zinc oxide (to bring out the color) and 2 to 5 per cent of a suitable mineral or earth pigment or cosmetic lake, e.g. 3 per cent middle green lake, plus 2 per cent gold-bronze. The metallic powders (gold bronze and aluminum) impart a pleasantly scintillating effect, but the most important material of this type to include is the "background brightening agent," zinc oxide or titanium dioxide.

Eyebrow pencils used for coloring the eyebrows are much more easily formulated. The product must have a high pigment content and a hard base, because it is subjected to greater pressure. It must also contain a lubricant which would allow easier application. The essential raw material in the base is, therefore, carnauba wax, with beeswax and mineral oil also present. It is possible also to use any of the other hydrocarbons available. The pencils come in several forms, the most common being in the lead pencil form.

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Perfumer's Shelf

Cinnamon and Cinnamon Oil

After presenting a brief consideration of the historical and market background, C. S. Priest (*Australasian J. Pharm.* 26:15, 1945) gives interesting details on cinnamon and its oil.

He notes that *Cinnamomum zeylanicum* is indigenous to Ceylon, having at least six recognized types; this moderate-sized tree of about four feet, and having shiny green leaves, grows at elevations ranging from sea level to about 2000 feet. Growing on a variety of soils and under varying climatic conditions in the tropics, cinnamon grows best on the white sandy loams at sea level. There are four other species indigenous to Ceylon. *C. multiflor*, a small tree growing in the 3000 feet belt; *C. ovalifolium*, another small tree, grows in the forests at 4000 feet; *C. citriodorum* is very rare, and has a habitat between the 1000 to 2000 feet range; *C. litesalfolium* is a large tree, and is very rare, found only in the mountain zone.

The quality of the bark is affected by five factors. The first, gross factor is the nature of the soil. The second factor is the position of the bark on the stem; for instance, the bark peeled from the middle of the stem has better characteristics, physical and chemical, than that removed off either the upper or lower ends of a branch. There are three main grades of bark as classified from the one crop. Middle bark, which is the best, top bark, and second grade; and base bark, the thickest, which is of inferior quality.

After preliminary treatments, the cleaned bark is made up into compound quills of about two feet six in length; they are then placed singly on horizontal strings, which are strung parallel under the roofing. They are kept here until they are completely dried out, this point being determined by the degree of friability of the quills. Trimming to an even length and packing in bales of approximately one hundred pounds in weight completes the cinnamon for its appearance in the drug markets.

The oil is distilled in steam and the yield from the chips average from 0.5 per cent to 2 per cent. The official limit of ash is 7 per cent. The oil that is distilled from the leaves is of greatly inferior quality and is mostly used by confectioners.

Cinnamon oil is light yellow in color. It is aromatic, carminative and antiseptic. It contains 50 to 65 per cent w/w cinnamic aldehyde; 4 to 8 per cent eugenol, and a small percentage of terpenes. The specifications for Oil of Cinnamon are identical in the U.S.P., the B.P.C. and the Japanese Pharmacopoeia.

Air Odor Improvement

Air odors, notes E. C. Crocker in his discussion of methods of improving the odor of air in *Chemical Industries* (56:777, 1945) may be of many types, according to circumstances. Whatever their source air odors include nearly all classes of chemical compounds. There are, for instance, acidic odors such as those of vinegar, sulfurous acid, and the fouler smell of butyric acid; the acid anhydride or lactone odors such as diacetyl which is the most distinctive component of butter flavor, and coumarin, which has a fragrance like that of new-mown hay; and the phenolic odors of tar, creosote and oil of cloves. On the opposite end of the chemical scale, there are the basic odors characteristic of fish, cantaloupes, feces and the quinoline of tars. In between are vast numbers of chemically neutral odors such as the esters of fruits, alcohols, aldehydes, etc. Some of the strongest odors known are those containing the mercaptan class of sulfur compounds, as do the odors of skunk, roasting coffee, and certain petroleum refining operations.

When the chemical nature of a particular odor is known, there is a fair chance of finding a neutralizing substance to eliminate it. If it is not known, however, the chance of finding a neutralizer is rather remote. Frequently the substance intended as a neutralizer will be either quite indifferent, or it may even accentuate the odor. Since odors are seldom accurately known and often are of mixed nature, there is statistically no opportunity for chemical neutralization by acids or alkalies. Furthermore, many odors are not destroyed by gaseous oxidizing agents such as chlorine or ozone, which have powerful and irritating odors of their own, so that "cold combustion" by the agents is out of the question. Whatever is to be used must capture and remove all odors, regardless of their chemical nature, if it is to be successful.

A number of mechanical methods, based on the principles of adsorption, absorption or precipitation have been devised, as well as methods for "scrubbing" the air, to remove objectionable odorous materials. All of these methods have certain limitations. When odors are objectionable but not too strong, they may be masked by perfume. Perfuming or so-called re-odorizing of air makes the original odor more tolerable. A small quantity of an appropriate perfume is finely distributed throughout the air to "neutralize" the smell, which means to render the original odor unobjectionable. The odor of the perfume should not be conspicuous—usually it is something light and sweet but not easily recognizable. After it is smelled for a few moments, it is no longer noticeable.

The dispensing agent for the perfume may be a spray-gun, often used by theatre ushers to "freshen" the air of a theatre between shows. Sometimes a spray gun application of perfume to a dust-laden filter will make the partially conditioned air more acceptable.

Florida's Lemon Grass Oil Industry

Several years ago, in an article in *Drug and Cosmetic Industry* (49:262, 1941) A. A. Bourne described the creation of a new lemon grass oil industry in the Everglades of Florida. In the April 30, 1945 issue of the *Chemurgic Digest*, this writer brings the status of this industry up to date and presents information of definite interest to those concerned with the domestic production of essential oils.

Since the establishment of Florida's lemon grass oil industry, notes Bourne in his new report, vast changes have taken place both in the availability of agricultural labor and the cost thereof. Originally and before the war, this industry was selected as a partial solution for ironing out a labor valley and find-

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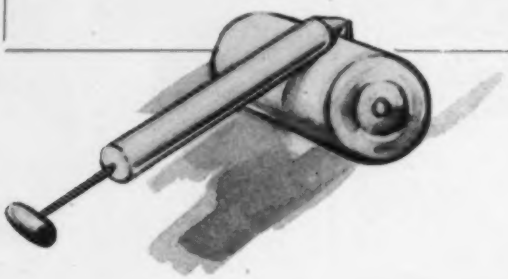

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FACTORIES AT CLIFTON, N. J. AND SEILLANS (VAR) FRANCE

ing year-round employment for migrant domestic agricultural workers seasonally employed in the sugar industry. The demands of manpower for military service and the war industries have created a serious shortage of labor in practically every phase of American agriculture and the sugar and lemon grass oil industries are no exceptions. It is true the lemon grass oil industry was established on a highly mechanized basis, but shortages of agricultural machinery and operators and more than doubling of the cost of most field and processing operations through increased costs of labor and materials, have not been compensated for adequately in the sales price of the oil.

Because of fluctuating availability of labor, a continuous year-round production schedule has been impossible for the past several years Naturally, instead of harvesting three or four crops during an annual cycle, only one or two cuttings have been possible in most fields. Some of the production records under curtailed cropping are still of interest, however, and these are shown in the following table:

Some Yield Records From Low Organic Sandy Soil, Clewiston, Florida

Cropping Period	Acres Harvested	Mean Yield Per Acre		Lbs. oil Per ton Grass
		Grass Tons	Lbs. Oil	
Sept. 2, 1941 to May, 1942	1618.4	1.71	10.807	6.304
July 1, 1942 to June, 1943	1908.1	5.18	29.017	5.603
July 1, 1943 to Feb. 7, 1944	1138.8	6.59	30.107	4.570

The yield data for 1941-1942 are low because the commercial planting had not yet become fully established and cold damage during the winter reduced yields considerably. However, the other two harvest periods are more representative of average yields obtainable from one annual harvest on this soil type under our conditions. During the period September 2, 1941 to February 7, 1944, when oil shipments to this country were greatly hampered by enemy action and shortage of shipping space for materials other than those essential for war, our production was able to supply 107,315 pounds of lemongrass oil to domestic consumers.

A consideration of market price fluctuations for lemon grass oil between 1942 and 1945 shows that a peak of slightly over $4.00 per pound was reached in April, 1942, and the high price was of very brief duration and occurred at a time of the year when processing is either on a very limited scale or is impossible because of labor demands in the sugar industry. A steady decline took place, so that six months later the price was only $1.15 per pound. By October, 1943, it had dropped to 64c per pound which was actually 20 percent below the 1917 level used as a basis of successful commercial production in this country 28 years ago. On examining the production costs and profits for the period July 1, 1943-June 30, 1944, it was found that the average sale price for the period netted $0.7602 while production costs were $1.8020 so that a loss per pound of oil delivered for the year amounted to $0.9176.

In his previous report, Bourne had indicated that successful byproduct utilization of lemon grass pulp offered an opportunity for competition of the lemon grass oil industry as against foreign producers of oil. Subsequent research has shown that a mixture of dehydrated lemon grass pulp and cane molasses supplemented with a small quantity of protein concentrate such as soybean or peanut meal made an excellent feed for finishing range steers. During the period of introduction of this feed to the market up to 1943, it was sold either at a loss or practically at cost. However, during 1943-44 this feed showed a net profit of $6.0267 per ton.

Examination of operation data for the year 1943-1944 on the bases of both oil and pulp production and sales shows that with a net oil price of $0.7602 a loss of $31,459.92 was sustained. The pulp production, however, showed a profit of $6.0267 on 3,078.85 tons, or a total of $18,507.09. Thus, byproduct utilization reduced the total loss of the entire combined operations to only $12,952.83. Had the price of oil been maintained at the 1941-42 level of $1.9958 per pound, however, there would have been a profit of $0.1938 per pound, or a combined profit from oil and feed manufacture of $25,151.52 or $22.08 per acre. Such a profit is certainly not unreasonable considering the capital investment and the agricultural risks due to climate, disease, pests and the uncertainity of labor.

Since lemon grass oil has been listed among the products essential to the welfare of the United States, it is only natural to conclude that such a necessary product should be produced at home. Failure to do so in the past practically cut off our foreign supply for several years after 1939. Since it has been demonstrated commercially that lemon grass oil can be produced economically, Bourne believes that United States agriculturalists should be permitted to supply a large proportion of our own domestic requirements at a fair and stable price.

It is his opinion that the only fair procedure would seen to be for the United States to buy supplemental quantities of domestically produced agricultural products from those off-shore countries which pay their workers the same wages or equivalent that we pay our domestic workers who are engaged in the production of the same products. This will then give the workers in Middle America and other off-shore areas sufficient money to purchase other United States products on the same basis as domestic workers. It would stabilize prices, preserve our domestic industries from being swept away by low-wage foreign competition and promote Pan-American trade and good neighbor relationship by inviting and making it possible for the common man in the off-shore area to purchase our goods on an equal basis with our own common domestic laborers.

Odor Combinations

According to C. P. Wimmer, in a discussion of basic facts of perfumery appearing in the *Merck Report* for April, 1945, perfumers distinguish among several types of odor combinations: the single flower odor, the single flower bouquet, the flower bouquet, and the fantasy odor. The first one presents the beautiful odor of one single flower, such as the tea rose, lavender, or lilac. This type is the most difficult to compose. The single flower bouquet gives the effect of a bouquet of flowers with one of the flower odors predominating, while the bouquet odor is that of a beautiful bouquet in which none of the components is permitted to overshadow the odor of the others. Then there is the fantasy odor perfume in which widest latitude is given to the creative perfumer who endeavors to produce odors and fragrances not found in nature but which, nevertheless, are engaging, exciting, and captivating for the moods of temperamental femininity—odor combinations that blend with and enhance the charm of every personality.

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Industry's Books

Hayfever Plants, Their Appearance, Distribution, Time of Flowering, and Their Role In Hayfever, with Special Reference To North America, by Roger P. Wodehouse, Ph.D., Associate Director of Research in Allergy, Lederle Laboratories, 245 pp., Illus., The Chronica Botanica Co., Waltham, Mass., $4.75.

This book brings together very nearly all of the botany that is desirable to know in order to gain a clear understanding of the role that plants and their pollens play as causes of the allergies, hayfever and asthma. The essentials of the various disciplines of botany are here brought together with the elimination of all materials not bearing directly on the study of hayfever and asthma. The book tells which plants cause hayfever, with special attention to the numerous and confusing vernacular and Latin names by which they have been designated in medical literature and elsewhere. It tells why certain plants cause hayfever while others, perhaps similar and closely related, do not. It tells how to recognize those which do by the structure of their flowers and inflorescences. It tells why hayfever plants grow in certain places and are excluded from others, and the effect of the impact of civilization on our environment in their distribution. It tells which are the primary and which the secondary causes of hayfever and their seasons of activity in the various floristic areas throughout North America. It tells how to catch grains of pollen out of the air and how to identify them and estimate their relative abundance. This is undoubtedly the most complete text on the subject today.

Profitable Beauty Shop Management, by Seymour B. Jeffries, B.B.A., Director of the New York State Beauty Trades Research Bureau, 276 pp., Illus., Prentice-Hall, Inc., New York, $3.

The rapid evolution of Beauty Culture from a trade to a profession, the imposition of new laws as well as a number of new taxes, all these have left the average shop owner in a state of bewilderment. Records, which in the past were either kept in a haphazard manner or not at all, must now be kept accurately. Every operation must be considered and evaluated to ascertain whether it shows a loss or a profit or is just another added service. Salesmanship, often neglected in the rush of a busy season, today demands earnest attention and intelligent effort if a satisfactory income is to be enjoyed This book contains a clear presentation of the subject and simplified directions for keeping the necessary records.

The Hair and Scalp, by Agnes Savill, M.A., M.D., 304 pp., Third Edition, The Williams & Wilkins Co., Baltimore, $5.

Doctor Savill scientifically describes in simple English the normal care of the hair and beneficial or harmful effects of such treatment as permanent waving, singeing, bleaching, and dyeing of the hair. Excellent concise descriptions are given of the multiple dermatoses affecting the scalp and hair, either primarily or secondarily, and emphasis is placed on their relation to internal diseases. Only a person of Doctor Savill's wide experience as a practitioner, gynaecologist, dermatologist, and editor for years of Savill's Clinical Medicine could bring all these important findings together in a single, small volume. She has incorporated into the book all that is of value from older treatises on the hair, including the extensive observations of Sabouraud, under whom she studied. She has correlated these data with the newest observations, many of which are her own. This third edition should continue to be a distinguished and outstanding contribution to this subject.

Communicable Diseases, by Nina D. Gage, A.B., M.A., R.N., Superintendent of Nurses, The Protestant Hospital, Nashville, and John Fitch Landon, A.B., M.D., Attending Physician, Willard Parker Hospital, with the collaboration of Grace M. Longhurst, R.N., and George F. Hoch, A.B., M.D., 525 pp., F. A. Davis Co., Phila., Fourth Ed., Illustrated, $3.50.

This is a new and up-to-date text on Communicable Diseases, embodying the teaching aids and successful layout of the former edition. The authors, recognized authorities in this branch of the profession, have greatly revised this new and larger edition. The following complete chapters have been added: Penicillin, Encephalitis, Dengue and Nursing Care, Cholera and Nursing Care, Malaria and Nursing Care, Nursing Care of Encephalitis, Epidemic Keratoconjunctivitis and Nursing Care, Tropical Diseases Rare in the United States and Nursing Care. Many new illustrations have been introduced, including additional full colored plates.

Sulfonamide Therapy In Medical Practice, by Frederick C. Smith, M.D., Editor of Philadelphia Medicine and Medical World, 368 pp., Illus., F. A. Davis Co., Phila., $5.

The tremendous interest that the sulfa drugs have aroused has been productive of an enormous volume of literature dealing with various aspects of the subject. Many of the contributions have been thoughtfully prepared and scientifically controlled. Others, again, have set forth conclusions too often premature and not based upon careful investigative procedures. It is timely, therefore, that someone possessing a critical point of view should analyze the current literature on the sulfa drugs and present in a systematic way the practical results of this great volume of investigation. Dr. Smith has undertaken such a task, the result of which is this volume. It represents the painstaking and critical analysis of our present knowledge of the sulfa preparations. An enormous amount of data has been sifted and the conclusions should prove unusually worthwhile to those who are engaged in the practice of medicine. As is the case with all active preparations, the sulfa drugs, although capable of almost unbelievable good, are not without their dangers. The toxic effects of these drugs, which in a number of instances have proved fatal, have not been sufficiently stressed and are often overlooked by those who use sulfa drugs heedlessly. In this volume, both the dangers of the sulfa drugs, as well as the particular indications for their use, are stressed, so that any thoughtful reader should be able to obtain a good idea of the uses and abuses of these justly popular but potent therapeutic agents.

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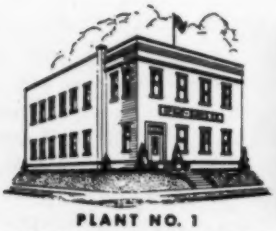

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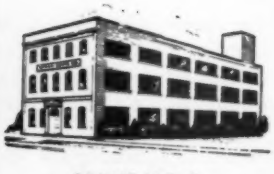

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PURCHASING DEPARTMENT

Increased Cost of Soap Manufacture Reflected in Glycerin Prices, Market Strong: Menthol Still Weak

While there are fair stocks of glycerin to meet domestic requirements the spot market continued to reflect the strong position recently noted. Recent advances have placed this commodity at ceiling level. The movement is attributed to the fact that, since soap makers, who are also refiners of glycerin, cannot raise the price of soap because of ceiling limitations, they have advanced the price of the by-product in order to offset increased cost of soap manufacture. It is as yet too soon to determine what real effect the recent War Food Order-134 restricting consumer inventories to thirty days and distributor inventories to twenty, will have on the market.

Menthol Lower

The spot price of natural menthol was again lowered with the range now at from $9.00 to $9.50 a pound. Of outstanding interest in this market was the arrival of 1,438 cases of Brazilian menthol. This is about the largest single shipment this year, but it is understood additional large quantities are afloat on several other steamers.

While the menthol situation is still confused, there is more evidence that the hugh Brazilian production is having a weakening effect at the source. Exporters in Brazil seem anxious to move material, and since buyers here are still inclined to await future developments before making sizable purchases, the position of this item can be described as weak with further substantial price reductions likely.

The sugar quota for pharmaceutical manufacture has been reduced to 110 percent of the base amount for the July-September quarterly period, but such a reduction is smaller than many had anticipated. Cough drops have been transferred from the drug to the confection class, which has a 50 percent quota instead. Because of the cut in sugar, consumption of menthol in cough drops will undoubtedly be affected. However, the use of menthol in cough drops is said to be relatively small as compared with the quantity used in proprietaries, tobacco and pharmaceutical products.

Amino Acids In Demand

WPB reported sulfa compounds in ample supply, and sodium and calcium salts as freely available for all parenteral uses, including veterinary. Penicillin restrictions have still to be relaxed for various other forms of medical or self administration. Amino acids continue to find great interest and demands are in excess of their restricted capacity. In connection with a relief program for Holland, protein hydrolyzates are being exported, and synthetic amino acids are in good demand for this purpose.

JUNE PRICE CHANGES

UP

Citral 15c
Henbane leaves 40c
Kamala 3c
Plantago seed 2c
Spartein sulfate 45c

DOWN

Aloin 65c
Balsam Copaiba Para 3c
Balsam Copaiba S. A. 2c
Balsam Peru 5c
Bergamot oil $2
Burdock root 2c
Lavender spike oil 80c
Lycopodium 25c
Menthol natural 75c
Mercury $4
Peppermint Natural 25c
Redist. 30c
Rosemary oil 30c
Saffron Spanish $2

Prices quoted in this section were current on the first of this month.

Vitamins, with the possible exception of A, are still in good supply and food manufacturers are expected to expand their requirements in thiamin hydrochloride, riboflavin, niacin, without waiting for the Pacific war to end. Military and lend-lease demands remain heavy for vitamin A, and available supplies of cod liver oil in this country have shrunk to small totals. Prices for spot oil firmed up recently to about $2.60 a gallon.

Aloin Cut

The reduction in aloin amounting to 65c per pound is the first change in some time, with the more favorable prices being attributed to more reasonable raw materials cost. Aloin is a widely used article going into the manufacture of a long list of manufactured products, especially those recommended for colds. New prices range from $4.80 to $4.89 per pound, 140 pound barrels being quoted at $4.80; 100 pound lots at $4.82; 50 pound lots $4.86; and 25 pound lots $4.89.

Camphor Firm

While production of refined synthetic camphor is slightly larger than it was several months ago it is still far short of total demands with the result that major distributors are only able to fill a relatively small portion of the regular consuming trades requirements. The spot market continued firm.

Mercury Lower

The downward trend in mercury has been extended with domestic metal being offered at a price range of from $149 to $154 a flask. Despite the series of price reductions that have featured this article over the past few weeks or more the mercurials fail to show any change. Normally the derivatives are affected by a change of $5 in the cost of the metal.

Consumption of mercury compounds is said to be about 75 percent of what it was last year, but with the oxides included the demand is reported to have reached a new high level over the past

(Continued on page 117)

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SANTONIN
MEETING REQUIREMENTS OF ALL INTERNATIONAL PHARMACOPOEIAS
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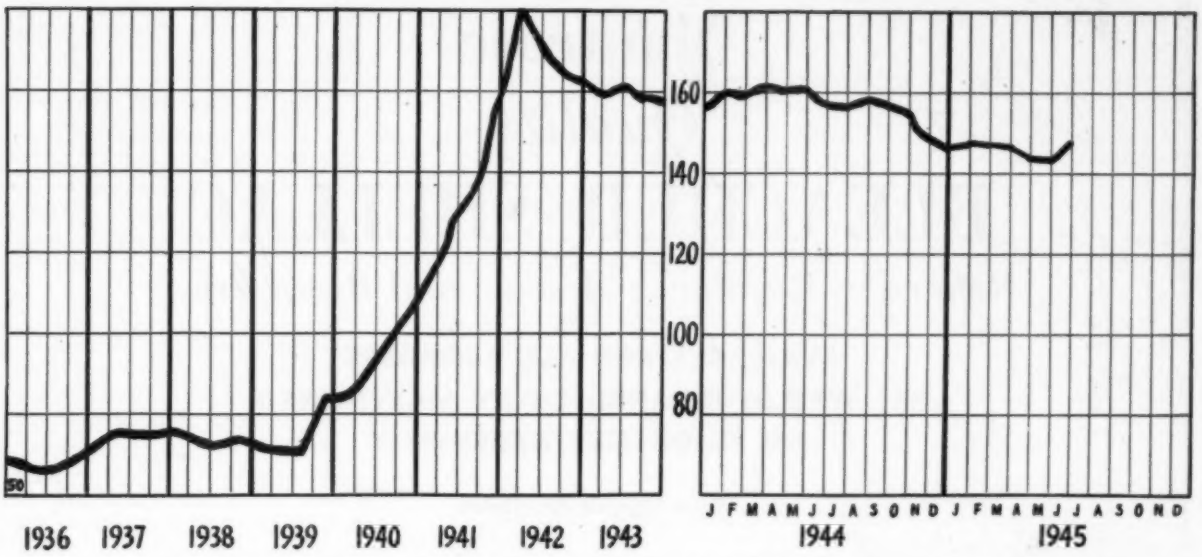
50 Raw Materials—Weighted Price Index. 1926=100.



The price index of fifty commodities for June advanced to 150.2 from the previous 143.6.

Large Shipment of Italian Bergamot Oil Arrives at Lower Prices; Peppermint Oil Also Easier on Spot

The feature development in the essential oil market during the current trading period was the arrival of about 110,000 pounds of Italian bergamot oil. The new supply came on the market at a reduction of $2.50 per pound below the last firm spot price and placed the value here at a range of from $8.50 to $9. This is the second shipment to reach this market since Italy was liberated and, according to reports, the material will be divided among the various dealers here for resale. This new lot of bergamot oil is believed to be about equal to a full year's requirements.

Some dealers indicated that their quota of the 110,000 pounds has been already sold into consumption. Trade indications showed that there were ready buyers for anything available at $8 per pound, dealers thus seeking to absorb any oil owned by dealers with a quota not already engaged for consumption.

Since the first lot of bergamot oil received here last October amounted to 90,000 pounds the total received so far is equal to approximately 200,000 pounds.

Peppermint Lower

With new crop mint in the ground on a substantial acreage and making good progress, an easier spot market price position has developed. Natural oil is offered at $7.25 to $7.50 per pound and redistilled material at from $7.75 to $8.05. Acreage under cultivation is believed to exceed that of a year ago but no official figures have as yet been provided by the Bureau of Agricultural Economics.

Citrus Oils Firm

Although a consignment of Italian lemon oil had been expected to come forward on the ship that brought the bergamot oil to this country, no lemon oil was abroad. As a result the spot market is practically devoid of material to fill current demand.

Some imported orange oil arrived here during the past month but the spot position was entirely favorable to the complete maintenance of values. As a matter of fact there were reports current that domestic producers would increase prices but as yet this has not happened.

Brazilian and Florida oils were higher at $1.50 to $1.60 per pound and both were increasingly hard to secure. The supply of California oil is by no means ample.

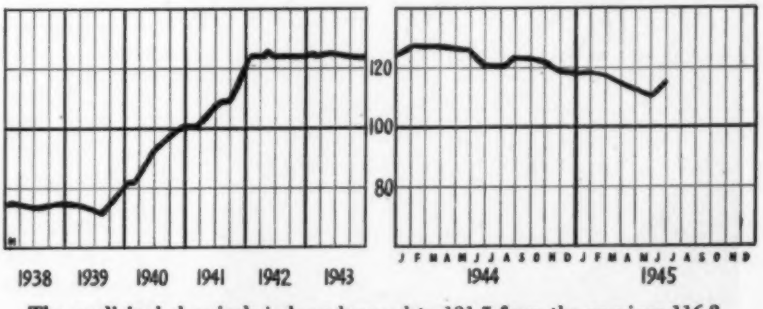
French Oils Arrive

The first shipment of essential oils from northern France since the end of the war in Europe arrived in New York during the past month. The SS Oregon carried 94 packages of various oil and, although this shipment was expected for some time, it was welcomed as an indication that future arrivals may be anticipated.

Eucalyptus Scarce

Eucalyptus oil is next to impossible to obtain and any price would mean

15 Medicinal Chemicals—Weighted Price Index. 1926=100.



The medicinal chemicals index advanced to 131.7 from the previous 116.2. Menthol and mercury were lower but cod liver oil advanced.

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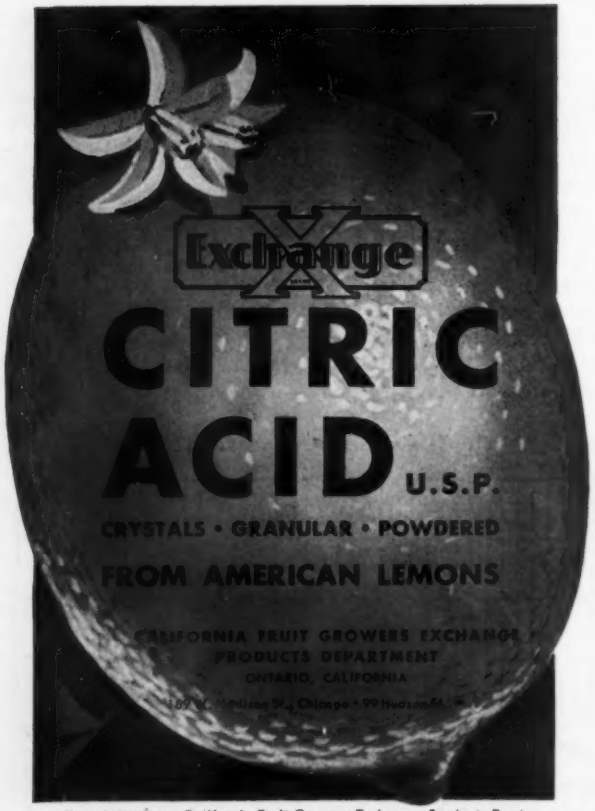

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little or nothing since only mere token quantities are available and unsold on spot.

Lemongrass Honduras

In 1944 Honduras produced 4,800 pounds of lemongrass oil, according to the Department of Commerce. Supplies in the spot market, however, were moderate enough to keep prices strong.

Miscellaneous

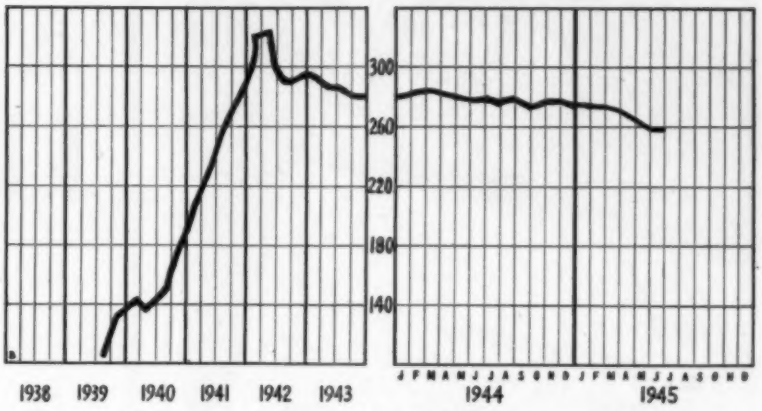
Among the spice oils, ginger is meeting with a moderate request at $20 to $22 per pound. Oil prices reflect the high African root, which is 20c per pound as compared to a normal cost of from 4c to 5c. Ceylon citronella oil remains strong and active. Because of a seasonal demand for certain imitation flavors a decidedly better inquiry is noted for citral. Linalool and linalyl acetate are expected to reflect the increased supply of bergamot. Pressure of demand for bois de rose and petitgrain will probably be reduced because of the availability of bergamot oil. A few drum lots of patchouli recently arrived here. Only token quantities of lavender oil arrived here during the past month but since this was the first shipment in some time trade factors were encouraged thereby. Clove oil remains in a very firm position. Although there is an ample supply of the spice major distillers explain that because of the labor problem, they are unable to meet requirements. Small amounts of geranium, vetivert and ylang ylang were on the steamer which recently arrived here with a large cargo of vanilla. Cananga is firm. Dealers are holding small stocks for regular customers. Difficulty is noted in obtaining coriander seed. The future supply of this oil is likely to remain conservative. Bois de Rose is in short spot supply. There are no indications that this condition will improve in the near future.

Citronella Production Honduras

Production of citronella in Honduras increased during 1944, but still occurs only on a small scale. Exports of citronella oil in 1944 amounted to 32,556 pounds, compared with 5,440 pounds in 1943.

The quantity of lemongrass oil exported from Honduras in 1944 amounted to 4,800 pounds.

15 Botanicals—Weighted Price Index. 1926=100.



The botanicals index remained without change at 268.1.

CRUDE DRUGS

Bourbon vanilla beans to the amount of 934 cases have arrived here. They came consigned to twelve companies, some of whom were dealers, while others were financial institutions or forwarding companies. Much of this vanilla has already been sold, and shipments from dock to consumer are frequent. An additional shipment of 259 cases also reached here from Fort de France, Martinique. Further quantities are said to be due from other sources of supply and some believe that, when all goods expected have arrived, the total landings will represent about 200 tons of beans.

Prices, however, were maintained free from change mainly because of the relatively high primary cost and the absence of surplus supplies for warehousing.

Conservative members of the vanilla bean industry in Mexico forecast the 1945 crop at about 175,000 pounds, whereas others predict that it will exceed that of 1943 when between 350,000 and 400,000 pounds were produced. The latter estimates are based upon two factors: (1) Increased plantings which have occurred since 1939 and (2) the fact that unfavorable seasons seldom occur in succession. Past history reveals that generally an unfavorable season is followed by a favorable one. For example, 1943 was a highly successful year, whereas production in 1944 was low, about 150,000 pounds.

Since practically all of Mexico's vanilla is exported to the United States, Mexican buyers are partially controlled by United States ceiling prices, which at present are $11 per pound for whole beans and $10 per pound for cuts.

Paraffin Wax Scarce

Continued shortages of paraffin wax for military and essential civilian uses have made it necessary to place this product under allocation control in Order M-300, schedule 108, beginning with the month of July, it is announced by the War Production Board. The order includes low melting refined, high melting refined and and crude scale wax, but does not include raw slop slack wax which is in comparative free supply and which can be used, officials say, as a substitute material in most cases where refined or crude scale wax is ordinarily used.

Pyrethrum Sources

Pyrethrum has become increasing important in the war effort. Since the inception of the government program for its use as an insecticide in 1942, approximately 13,000 tons have been obtained from British East Africa, Belgian Congo, and Brazil. The largest source of United States supply is British East Africa. In 1943 the United States and Britain entered into a contract whereby a portion of the pyrethrum grown in British East Africa would go to the United States. Later this was received as reciprocal aid. The amount received under this agreement up to May 1, 1945, was 7,000 tons.

The United States received from Brazil from four to five times more pyrethrum in 1944 than 1943 and, for the same period of time, three times as much from the Belgian Congo. All pyrethrum imported is used by the Army with the exception of a small percentage of low grade material that is used for agricultural purposes.

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Ipecac Scarce

No prices are quoted on ipecac root. Stocks continued to be subject to disposal at the direction of Federal agencies.

The Brazilian crop of ipecac for 1944-45 is estimated at 90 tons, a reduction of 20 tons from the 110 tons produced in 1943-44. This decrease is caused by the long drought, the diversion of labor to the transportation of merchandise for the rubber workers, and the high demand for labor for rubber collecting.

London advices indicate that the Brazilian Government proposes to restrict the export of the 1945 crop of ipecac root to 25 percent to Great Britain and 25 percent to the United States, retaining the remaining 50 percent for the home manufacture of emetine. In order to qualify for export quotas, it is understood that the United States and British buyers must undertake to purchase available supplies of emetine from Brazil at an agreed price based on the price of ipecac from Matto Grosso. Export of the root, according to the report, is prohibited entirely as from 1946, so that the drug may be utilized in Brazilian national industries.

Palm Kernel Production Up

The palm kernel output in Nigeria in 1944 increased 2.6 percent over that of the preceding year; in Sierra Leone the production rose by 13.7 percent; in the Gold Coast, by 70.6 percent; and in Gambia, by 140.5 percent.

Waxes Short

An acute shortage of virtually all waxes continues here. In the case of carnauba, importers explain that because of black market operations it is virtually impossible to obtain goods in the primary center. A leading factor pointed out that black market operators are paying from 3c to 5c a pound more than American importers are able to pay in Brazil under OPA regulations.

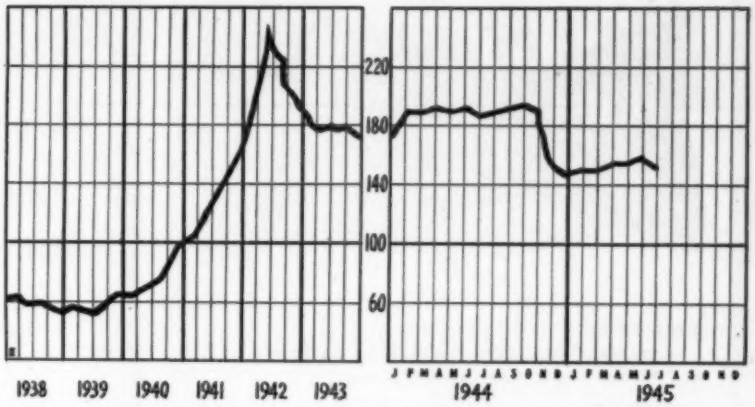
Arnica Tight

Arnica flowers are very firm at from $2.35 to $2.45 per pound. There was some expectation in the market that prices would be lower if domestic production improved. However, if it is impossible to obtain supplies from Europe this year, an unusually tight situation is likely to develop in the final quarter.

Miscellaneous

New crop calamus root is offered more freely but prices are higher in keeping with increased labor costs. Approximately 3,000 bags of gum karaya have arrived here from India. Several parcels of rhubarb, henbane, and kamala have also been received. Henbane is firmer at $1.40 to $1.45 a pound. Cheaper lots that had been available have quietly disappeared from the market. While there have been small lots of Irish moss arriving here, the latest shipment of over 150 bags is believed to be the first sizable quantity to reach this market since the war. There are ample quantities of medium bleached and partially bleached goods available on spot, but the supply of selected bleached or the extra selected grade is low and there is little available for replacement. The market is virtually bare of sarsaparilla, but advices from Mexico indicate that some goods have been sold for forward delivery and that such lots will be shipped on the next available steamer. With promises to the effect that there will be a limited reopening of private trade with Belgium in the near future, the trade is anxiously awaiting future developments in such articles as Roman chamomile flowers, angelica, and valerian. Kamala is lower on spot with prices ranging from 50c to 52c per pound.

15 Essential Oils—Weighted Price Index. 1926=100.



The essential oils index declined to 150.6 from the previous 153.0. Bergamot oil dropped to $8.50 and peppermint oil declined to $7.25.

FINE CHEMICALS

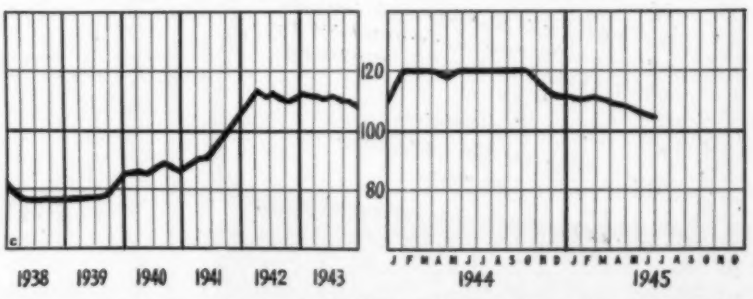
(*Continued from page 111*)

month. The battery trade continues the largest consumer of the oxides and it is believed additional orders for substantial quantities are about to be placed in line with the current program.

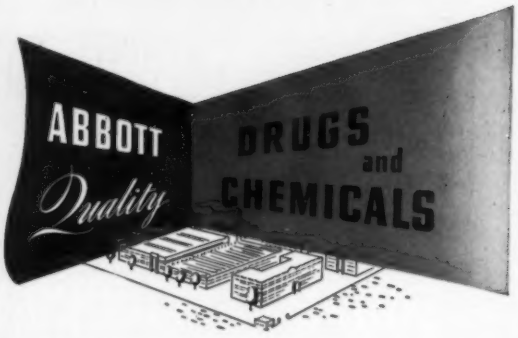
Miscellaneous

Late reports from Washington state that the Government is giving consideration to a Russian request for prompt resumption of industrial alcohol shipments to the Soviet Union. Any decision favorable to the Russians, in the opinion of WPB spokesmen, will not interfere with United States supplies. The sugar shortage is reflected in a brisk inquiry for such articles as dextrose, glucose and saccharin. The spot market is virtually bare of saccharin and any available lots of glucose or dextrose are rapidly being taken out of the market.

25 Cosmetic Raw Materials—Unweighted Price Index. 1926=100.



The cosmetic raw material index declined to 111.9 from the previous 112.9. Balsam copaiba was lower at 47 cents; Balsam Peru dropped to $1.10; menthol declined to $9.



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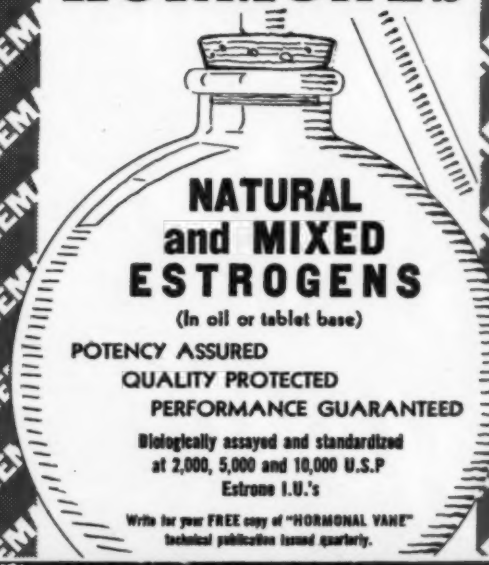

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Cosmetics as Insect Repellents

(Continued from page 47)

which will have to be observed more closely is the regulatory acts. A new federal insecticide act is being introduced shortly that will undoubtedly control claims for insect repellents. This will regulate labelling statements which will have to conform to the act and its regulations.

It is of further interest to know that the same suppliers who deal largely with cosmetic houses are making some of the repellents now used by the armed forces. They too will be active in the post-war period in merchandising their production in this field. Cosmetic manufacturers who expect to enter the field of insect repelling toiletries will plan now to do proper research work to produce effective products. The ineffective products offered in the past will not sell in view of the advances made in this field during these past few years.

Penicillin Ointments and Creams

(Continued from page 45)

One method for increasing stability is the use of penicillin salts rather than penicillin itself, since the latter is known to be a highly unstable substance.[15] Because of its greater availability, penicillin sodium has been rather extensively used in ointments. However, experiments have shown that penicillin calcium possesses properties admirably suited to the preparation of fine ointments and it is recommended as the preferred salt of penicillin for ointment use.[5] Of interest in this connection is May's[1] observation that tablets of penicillin proved to be easier to handle and more economical in use than the ampoules in which American and Canadian penicillin is dispensed.

Sterility of the base is a prime requisite, not only with regard to stability, but also from consideration of the use of such products on already infected wounds. Pending the development of a self-sterilizing medium, rather elaborate methods have been devised to insure the sterility of vehicles into which penicillin may be incorporated.[16, 17] With minor variations, the proc-

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ess is essentially as follows: the prepared vehicle is distributed in wide-mouth, screw-cap (preferably non-metallic) jars and autoclaved at 20 pounds pressure for twenty to thirty minutes; gradually reducing the pressure before opening the autoclave. When the base has cooled, but not yet set, a solution of penicillin of the requisite strength is added, the cap screwed on tightly and the jar thoroughly shaken to incorporate the drug. Payne[10] has suggested that the cap be pierced and the opening sealed; the penicillin addition being made via this hole after sterilization of the base, thereby minimizing the extent of exposure.

Dahl[5] stresses that where heat is employed either in compounding or sterilization, the base should be cooled to at least 37°C before the penicillin salt is incorporated because higher temperatures cause rapid deterioration of the active agent. Considering their adverse effects on penicillin, contact with metals should be avoided in the preparation, storage and packaging of penicillin ointments and the like.

Storage in a refrigerator is a very important way to prolong the useful life of penicillin preparations. Exposure to ordinary temperatures results in much more rapid loss of potency.

Penicillin ointments and creams may be classified roughly into two main categories: the washable types and the greasy or oily types; with several subdivisions under each. The British appear to emphasize the former type bases, while American clinicians seem to favor the latter.

British workers were among the first to test the value of penicillin ointments, much of the early observations being made on war casualties. Thus, in the treatment of infected burns, Clark and his associates[6] employed a base made from:

Lanette wax SX	**50.0 Gm.**
Castor oil	**120.0 cc.**
Water	**275.0 cc.**

Providing a stable base of approximately neutral reaction, sufficient penicillin solution was added to provide about 120 units per gram of cream. When stored in a refrigerator at 2°C, this cream retained its potency for at least a month.

Because this cream tended to separate on autoclaving, Bodenham[7] substituted a base composed of equal parts of soft paraffin, Lanette wax SX, and water mixed at 140°F. After sterilization, penicillin solution at a strength of 500 units per cc. is stirred in to give a final strength of 100 units per gram. The result is a yellow cream which is easy to spread and the stiffness of which can be varied by altering the water content. If desired, it can be frozen solid to preserve the potency of the penicillin. Applied every twenty-four hours in the treatment of burns and surface wounds, it was found effective in removing susceptible organisms from an infected, raw surface within four to six days.

After their investigation on the use of penicillin in war wounds in North Africa and Sicily, Flory and Cairn[16] reported on the use of a quite simple penicillin

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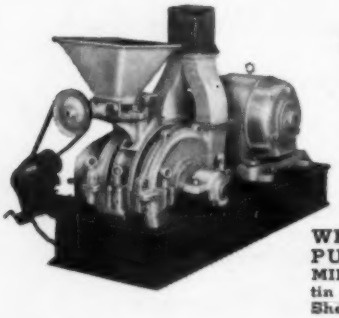

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cream. This cream was made with 30 percent Lanette wax SX and contained 250 units of penicillin calcium per gram. Details of the preparation of such a cream have been given in Payne's[16] report.

Other, similar washable, oil-in-water bases have been described in the British literature. Thus, Grainger's[18] base, as slightly modified by Dahl,[5] is as follows:

Lanette wax SX	**12 parts**
Peanut oil	**25 parts**
Distilled water, to make	**100 parts**

In their dermatological investigations, Roxburgh, Cristie and Roxburgh[2] employed a base consisting of Lanette wax SX, soft petrolatum, and water in equal parts. Penicillin calcium or sodium, in a strength of 400 units per gram was generally used, but sometimes this strength was reduced to 200 units per gram. This base is quite similar to that described by Barron and Mansfield[19] and others.[15]

Lanette wax SX, so extensively used by these several workers, is a British proprietary described[20] as a mixture of a higher alcohol and a sulfate ester of a higher alcohol. A good emulsifying agent, it is not at present available in the United States, although it was marketed here before the war. However, quite effective replacements for lanette wax SX have been developed. One frequently cited[5, 20, 21, 22] combination which provides a product similar in performance to the British material consists of:

Cetyl alcohol	**90 parts**
Sodium lauryl sulfate	**10 parts**

Perhaps more rounded is the substitute cream developed by Templeton and his associates[9] in order to compare lanette-like preparations with other penicillin bases. For this purpose they prepared a product with similar properties consisting of:

Cetyl alcohol	**14.5 per cent**
Sodium lauryl sulfate	**0.5 " "**
Glycerine	**5.0 " "**
Water	**80.0 " "**

Penicillin may also be incorporated in the more familiar "vanishing" type bases. Sophian and Connolly[22] obtained favorable response in a variety of conditions through the topical application of penicillin (1,000 units per gram) in a vanishing cream base containing 0.1 percent of Aerosol MA. In Australia, Burns[17] developed a "therapeutically efficient" base consisting of:

Glyceryl monostearate	**12.0**
Ointment of wool alcohols	**10.0**
Spermaceti	**5.0**
Liquid petrolatum	**2.0**
Glycerine	**3.0**
Chlorocresol	**0.1**
Distilled water, to make	**100.0**

Containing 500 units of penicillin per gram and tested at regular intervals, a cream made five months prior to the report had retained its potency when stored at 0°C. Another sample, carried in a pocket, remained active for six weeks, then gradually lost its strength until at ten weeks it was useless therapeutically.

Although such products do not appear to have been tried clinically, a pectin gel type paste made by Templeton and his co-workers[9] showed excellent penicillin stability in *in vitro* tests. Containing 500 units of penicillin per gram, this base was prepared by incorporating 5 percent pectin, 12 percent glycerine and 0.1 percent methyl parahydroxybenzoate in isotonic solution of three chlorides U.S.P. Stored in a refrigerator, this base showed a higher penicillin potency at the end of an eight-week period than any of the bases tested simultaneously.

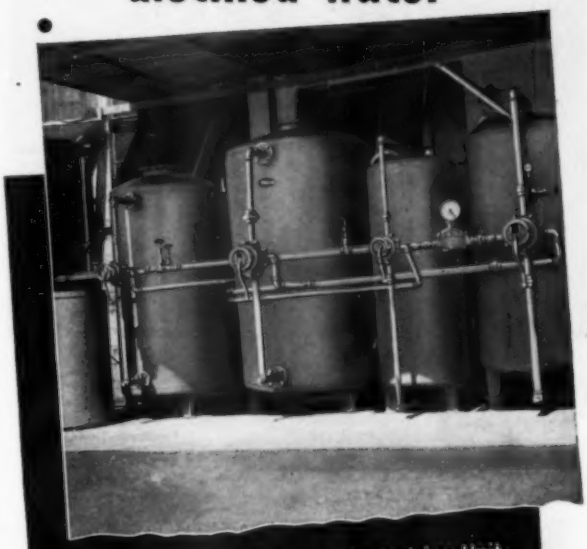
Oily or greasy vehicles, usually containing lanolin or absorption bases as the water-miscible component, are being tested quite extensively, especially by American dermatologists. Johnson,[11] for example, used penicillin in a water-miscible oxycholesterol-petrolatum base with considerable success in the treatment of varied infected skin diseases. Similarly, in their quite indicative studies on pyogenic dermatoses, Templeton, Clifton and Seeberg[9] used a base made from equal parts of water and an oxycholesterol-petrolatum base. Containing 500 units of penicillin per gram, this ointment was chosen because of its physical characteristics and elegance of application to the skin, even though other bases (e.g. petrolatum, pectin) had displayed better penicillin stability.

Another absorption base is highly recommended by Mentis[24] as a means of making a penicillin cream that will retain its potency for a considerable time. With a potency of 500 units per gram, excellent results have been obtained with such an ointment, especially in obstinate cases of impetigo of newborn infants; the condition often clearing within thirty-six hours.

Not being able to obtain the commonly used water-soluble emulsion bases in the Naval area in which they were stationed, Cohen and Pfaff[10] selected a mixture of 50 percent hydrous wool fat and 50 percent rose water ointment. Although penicillin did not appear to be particularly stable in this vehicle, they were able to obtain significant information regarding the local use of this drug in dermatological conditions. Especially noteworthy were their observations with regard to penicillin sensitivity. Their survey indicated that the normal skin has a very low degree of local sensitivity to penicillin as compared with the high degree of sensitivity to sulfonamide ointments. Of 524 patients given patch tests, only 5 (0.95 percent) presented positive reactions to penicillin. Hence, Cohen and Pfaff feel that penicillin ointment is the preparation of choice when sensitivity to ammoniated mercury or sulfonamide compounds exists.

Penicillin ointments have already begun to find rather extensive use in treating various external conditions of the eyes and adjacent structures. In the main, such ophthalmic ointments do not differ greatly from those recommended for the local treatment of other conditions. However, there does appear to be a preference for the oily or greasy type of base for topical application to the eye. The Floreys,[14] for example, achieved a high percentage of cures by employing, in

De-ionized water replaces distilled water



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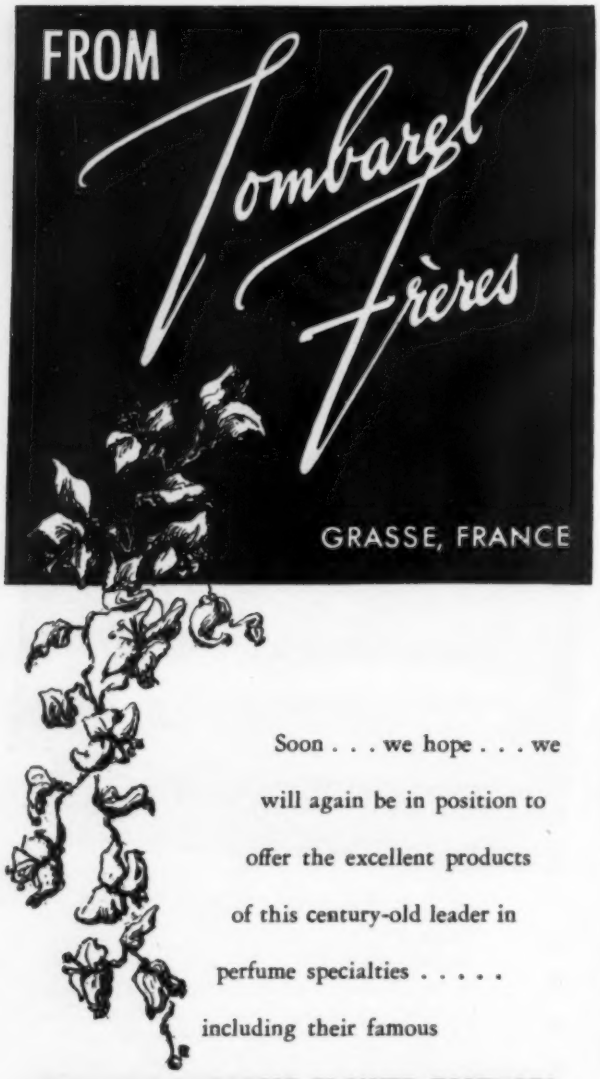

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addition to penicillin solution, a penicillin ointment made by dissolving the powder in distilled water and incorporating it in petrolatum in a strength of 600 to 800 units per gram.

Somewhat more elaborate ophthalmie ointments have since been employed. Keyes,[25] in his discussion of opthalmic diseases, describes an ointment containing 250 to 500 units of penicillin per gram. The base used consists of:

Petrolatum or hydrous wool fat	**25.0 per cent**
Cold cream	**75.0 " "**

This ointment showed a satisfactory diffusion of penicillin *in vitro* and displayed appreciable penicillin activity after six months in a refrigerator. Although diffusion activity lessened noticeably after twenty-five days at room temperature, one sample was still potent after forty-five days under such conditions.

In his section on ophthalmic ointments, Dahl[5] lists several useful vehicles obtained from private sources. In addition to proprietary absorption bases that may be employed for making penicillin ointments, he mentions the following preparation described by A. H. Witze of the New York Eye and Ear Infirmary:

Penicillin	**100,000 units**
Mineral oil	**10 drams**
Anhydrous lanolin	**25 "**
White petrolatum, to make	**100 "**

The rather comprehensive report of Bellows[13] on the values of penicillin in ocular infections includes a very indicative section on the comparative value of three different vehicles. Ointments, in the order in which they are recommended, are: simple ointment, oil-in-water emulsion and lubricating jelly. To 10 grams of each of these vehicles is added 25,000 units of penicillin dissolved in 0.25 cc. of distilled water. The first of these bases, the simple ointment, consists of:

Wool fat	**5.0 per cent**
White wax	**5.0 " "**
White petrolatum	**90.0 " "**

The second vehicle, the emulsion base, is made from:

Sodium lauryl sulfate	**1.0 per cent**
Stearyl alcohol	**10.0 " "**
Cetyl alcohol	**3.0 " "**
Spermaceti	**10.0 " "**
Glycerine	**15.0 " "**
Water	**61.0 " "**

The third or lubricating jelly base consists of tragacanth, quince-seed extract, glycerine and aromatic oils, with sodium ethyl mercuric thiosalicylate (1:1,000) as a preservative.

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Modern Remedies for Remote Control

(Continued from page 41)

interfering with available medical service (always better if economically available) actually harmful. While there is bound to be some over-lapping of service in some areas it does not seem correct for there to be any fundamental conflict, since the purpose of all therapeutics is fundamentally to allay discomfort and misery associated with disease and breakdown, and this all falls under the same ultimate control, namely medical science. Humans being as they are there always will be a certain amount of both intra- as well as extra- professional competition of an unpleasant nature, but sometimes it may be wondered whether the attacks that stem from purely professional agencies are entirely unmerited on factual or philosophic grounds.

Most remedies can have only a certain expectation of useful life for not only scientific advances may render them out-dated, but disease conditions materially change. Moreover, the very use of a properly designed remedy may actually cause its own disappearance. A good worm remedy for example, still a useful agent in southern areas, nevertheless will not endure, for as sanitation progresses and the infestation in consequence drops, it will finally reach a level at which medical service can cope therewith more economically. In other parts of the world it will be yet many years before this desirable state of affairs takes place.

Clearly then, constant attention must be paid to changing conditions by manufacturers of all medicinal agents. Moreover, it would appear wise to plan continually for the future since the present cannot be expected to be perpetuated unchanged, and a new discovery may leave a manufacturer with a prescription more or less valueless.

It has been a source of some amazement to listen to sales discussions when "potential sales areas" were described as entities without the vestige of reference to the existence of appropriate medical target, without which the remedy has no function. Equally impressive is the nearly complete lack of interest in the more technical study of disease distribution which would appear, nevertheless, to create the only real basis for therapeutic operations. Yet, the same gentlemen tell chucklesome stories of the young salesman who tried

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to sell refrigerators to esquimos, when sometimes that is exactly their own position.

The distribution of medical care is always expensive since it involves the use of skilled personnel in varying quantity, and also the use of expensive equipment. No matter what may be the therapeutic objective it cannot be accomplished without someone knowing enough, and most commonly, by someone being also told enough, or becoming educated. As the target becomes more remote clearly this essential matter of education cannot be directly accomplished and therefore must be associated with the function of the distribution itself. A good deal may, of course, be associated with the function of advertising, is very definitely associated with wholesome suspicion, and too great a stress on educational detail in association may thus defeat its own objective. The label on the package, and the various inserts and literature, can on the other hand be alien educational.

Unless, however, the quantitative factors are sufficiently large for mass production and its concomitant necessity of wide advertising, the resulting cost of the remedy to the patient may exceed that of the available professional care, or be so high that its use is limited. As we have already seen the basic justification for remote controlled remedies is that they are economically advantageous, and, if this is not achieved the remedy is more or less useless as a public asset, and certainly will not have a long life.

All members of the repair and maintenance service must never forget that they cannot properly avoid being members of a type of suicide brigade, for the more we learn of medical science, and the more we pass this knowledge to the public, the less will be their need for any given agent. The correct distribution of say, a worm remedy, with appropriate education would eventually cause the disappearance of its own need. In the same way one may imagine the time when the distribution of vitamins and minerals to the stable sections of the public will become a needless insurance, but as our knowledge of nutrition increases it may still be found that they are more economically taken as pure entities than along with a large and excessive food bulk. In any case there is so much yet to be done that none of the existing members of this brigade may fear anything but the effects of laziness or inability. Moreover, since all therapeutics involve more or less education of the public, all sections of the service, from the highly skilled specialist down to the humble manufacturer of protectives, must be prepared to shoulder their appropriate part of the educational burden. The time is passing when the rapacious business man, whether he bears an M.D. label or not, should find easy pickings as a parasite in medical quarters.

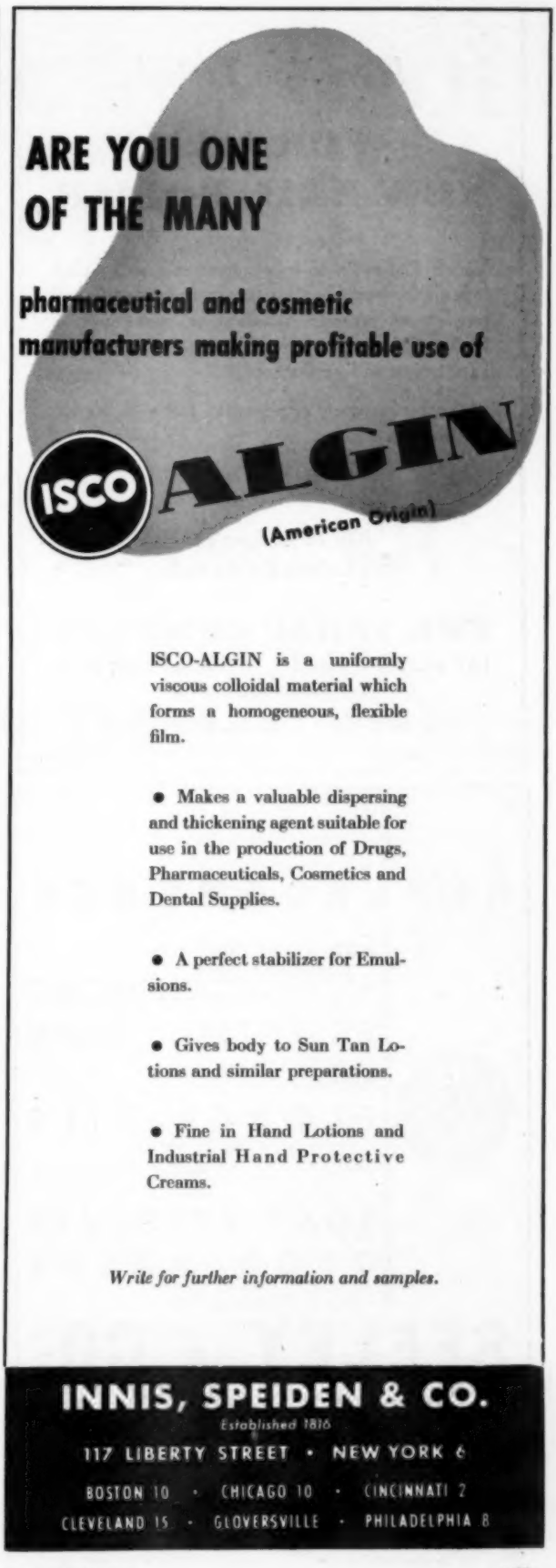
Having picked our target, be it malaria, worms, or other endemic trouble, with especial reference to the infested areas; or stuffed noses with particular interest in existing facilities for treatment, appropriate prescription must be compiled. This is an abdominably difficult matter. Far more so than for an individual patient, for

not only has one to consider the pure therapeutics, but also many other practical factors amongst which are safety; manufacturing difficulties; packaging difficulties, especially concerning climatic factors in shipping and storage; keeping properties, again with reference to temperature factors such as spoilage by cold or heat; cost of manufacture; cost of distribution, and very importantly, the therapeutic claims that may be made, without which distribution cannot be practically successful. Curiously enough the cost of manufacture is not nearly as important as one might imagine except, perhaps, only in a highly competitive field, for the loss that might result from an imperfectly made preparation is far more serious than some slight extra basic cost of manufacture. In consequence, rather contrary to general opinion, well advertised—and thus commercially valuable—remedies are generally very well made indeed.

Just as with direct controlled remedies by far the larger part of the cost to the patient is educational. With direct controlled remedies one has professional fees, both to the medical man and in his technical assistant the pharmacist, as well as the pro rata cost for skill in manufacturing. With remote controlled remedies the first two factors are eliminated and the cost lies largely in the advertising and appropriate labeling. However, with perhaps no major exceptions the remote controlled remedy costs the individual far less than the direct controlled, though with the latter, the patient usually derives the benefit of some supervision.

For certain milder conditions such as occasional headaches; a need to facilitate gastro-intestinal dejection; or a temporary loss of water balance so common after New Year's Day, it is rather to be doubted if the considerable extra ocst of direct supervision is really worth while even if available. With a public well educated in these matters there would be absolutely no doubt that to bother a medical man with trivial ailments would be exactly on a par to sending for an electrician to replace a worn out electric bulb. Such apparently is the conclusion reached by all forms of official medicine, be it Army; Navy; or other services; in which the large bulk of the simpler remedies are prescribed and dispensed by non-medical personnel. Those of us who have been directly concerned with such supplies have ample proof of this view since the quantity alone precludes direct intervention of trained medical care.

The estimation of safety involves two very important factors. The first is the purpose of the agent. If this be to treat a serious condition such as malaria, one is much more concerned with the amount of good the remedy can do than some temporary upset it may occasionally cause. On the other hand there can be no justification for the use of a dangerous remedy, such as dinitrophenol to reduce the effect of over-eating, in which very serious risks indeed are taken for quite frivolous reasons. By contrast, the occasional case of poisoning that occurs with standard anthelmintic remedies, no matter who supplies the drug, is not a sufficient justification for discarding these irreplaceable agents.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In general the curve of effectiveness parallels the curve of over-loading, or toxicity, so that an increase of dosage, while producing an increase of the therapeutic benefit, will at the same time narrow the zone beyond which overloading becomes increasingly common. In consequence, unless one is dealing with certain agents like aspirin, vitamins and penicillin whose margin of safety is so wide that the chances of overloading even with maximum therapeutic activity becomes remote, one always has to consider the best compromise between the therapeutic activity and the toxic potentialities. For cosmetic and protective purposes, as a rule, real toxicity must be reduced to a vanishing point. In general, remedies for remote control must lay particular emphasis on safety, in consequence the dose may have to be lowered below that usually used in professional medical practice. However, it should be fully appreciated that drug actions follow a curve of frequency and, lowering a dose below ordinary professional use does not mean, as seems sometimes to be assumed, that such will be quite ineffective. Lowering a dose simply means that fewer people will respond to the same degree of intensity or not at all. Consequently a reduction of a dose will merely result in a quantitative decrease of therapeutic benefits. Overloading will entirely lose this potential in doses that are still reasonably effective. However, one cannot view with much alarm the possibility of one person in ten million becoming upset from the use of a compound of therapeutic value.

Before leaving this subject it seems pertinent to draw attention to the fact that the great bulk of overloading, or poisoning, even that which leads to markedly unpleasant or even alarming symptoms, rarely causes permanent injury, even with definitely dangerous compounds. By far the larger proportion of overloading results only in some more or less trivial and temporary disturbance, much less indeed than the many upsets of unknown origin that so frequently beset us all. Indeed a rather long experience in these matters, suggests very strongly that quite often a drug is blamed for symptoms resulting from some other cause. This is especially true of many reported cases in clinical journals where almost anything in the nature of a symptom may be coupled with the taking of any drug, merely because they happen at the same time in the same patient, and it makes a diagnosis simple, and mentally satisfying.

Next to the remedy itself the instructions for use are the most important. As the users are not directly supervised either in their original choice, or treatment, it is clear they must be given more information. They should know what the remedy is designed to do. They should also know like any other tool it works best when used properly, and also if it is abused, or used carelessly, it may on occasion produce harm. Along with the actual directions for use I believe this great opportunity for public education in simple medical matters should not be neglected, and that this opportunity, like every other, to instruct the public when they need skilled advice should not be lost.

Some manufacturers still fear the "caution" label, though why they should when practically every set of instructions with any other working tool or instrument now sold either to the public or the professional user contains such advice is somewhat difficult to understand. Caution and advice are the necessary concommitants for the directions of any tool, and providing they are written with the purpose of increasing the value of the tool, and not as a grudging sop to some extraneous force, will enhance its use. To use, however, a formal caution on everything from castor oil to violent poisons is a most hazardous procedure, and has, as I truly prophesied several years ago, led to an increasing and dangerous disregard of these things.

That any prescription, or treatment, for the public should be written or formulated without the aid of trained medical scientists is fundamentally wrong; just as the highest skill in each profession should be equally utilized; moreover, as I have already remarked, to write a prescription for remote control is an exceedingly complicated business and must in consequence be the result of the pooling of a number of skilled minds, as well as a great amount of practical experience.

To summarize these matters is to say that all medicine rests on economic base. Just as there is no legitimate reason for the presence of a skilled surgeon to treat a flea bite, there is no justification for remote controlled remedies unless they can offer more for the money than any other treatment; treat those conditions that economically do not justify the presence of a skilled man; or treat those conditions where there is no other treatment available in sufficient quantity. However, as each section is yet an enormous and largely undeveloped area, there is yet plenty of work to be done by those who are willing to become members of the therapeutic brigade sufficiently skilled for their difficult task of deriving good remedies for remote control.

STYPTIC COTTON: I have been requested to prepare styptic cotton which I understand was quite commonly used some years ago. I have checked through all the material and literature available to me but I have not been able to find a method for preparing such a product. Could you help me? Harrisburg.

Styptic cotton used to be recommended as a desirable item for medicine chest use and was made up for the use of dentists and doctors as a blood stancher. Ferric chloride was the chief active ingredient. Methods for preparing such styptic cotton have been described in Prinze's "Dental Formulary." One such consists of:

Solution of ferric chloride	**80**	**parts**
Glycerine	**16**	**"**
Water	**225**	**"**
Purified cotton	**100**	**"**

Mix the solution of ferric chloride, glycerine and water, immerse the purified cotton in this solution, and allow it to remain one hour. Then remove it, press it and spread it out in thin layers, in a warm place protected from dust and light. When dry transfer it to well-closed glass containers.

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READERS'

HAND LOTIONS: Can you give me a formula for a hand lotion containing stearic acid and cetyl alcohol. I would also like to learn some formulas for skin lotions which do not separate out and contain a pH which approaches the mildly acid side. U. S. Army Camp.

In response to the first part of your inquiry, ingredients of this type would result more in a liquid cream than a hand lotion in the generally accepted sense of the word. A product such as one containing the ingredients you specify could be made from:

Stearic acid	1.5
Potassium hydroxide	0.2
Quince seed	1.0
Karaya	0.3
Glycerine	15.0
Cetyl alcohol	0.5
Lanolin	1.0
Perfume	0.5
Preservative	0.1
Water	79.9

With regard to your request for a mildly acid hand lotion, I would suggest that you try the following:

Pectin	2.50
Lemon juice	9.50
Citric acid	3.00
Benzoic acid	0.15
Glycerine	5.00
Alcohol	15.00
Water	64.35
Perfume	0.50

Another formula of this type is the following glycerine and lemon lotion:

Fresh lemon juice	10
Water	90
Glycerine	5
Pectin (100 grade)	3
Yellow dye	sufficient
Oil of lemon, or suitable perfume	sufficient

THROAT CREAM: I should like a preparation that could be applied to the throat either for massage purposes or somewhat like a night cream. Brooklyn.

A formula for a preparation that could be used as a "throat cream" could probably be prepared as follows:

Lanolin absorption base	25.0	parts
Petroleum jelly, white	11.5	"
Zinc oxide	6.0	"
Glycerine	5.0	"
Lactic acid	1.0	"
Ceresine	3.5	"
Perfume compound	0.5	"
Distilled water	47.5	"

If desired, the lactic acid may be reduced, omitted, or replaced by citric acid or strained lemon juice. Witch hazel may be employed in partial replacement of the water. Varying the petroleum jelly and wax content alters the texture.

QUESTIONS

BATH SALTS: I have noticed in your magazine, that you give out various formulae for cosmetics. Would it be possible for you to send some formulae for making bath salts? We have the perfumed oils and the sodium sesqui-carbonate, but have no formula for mixing these two, or method of incorporating the items. I would appreciate any help whatsoever. Toronto.

The simplest procedure for making a bath salt with these two materials is to spray on the perfume while thoroughly stirring and mixing the sodium sesqui-carbonate. Color is generally added and used in conjunction with the perfuming material. Only about one per cent of combined perfume and color is required. A more rounded formula for making bath salts is as follows:

Sodium sesqui-carbonate	**91.0**
Sodium sulfate	**2.0**
Magnesium sulfate	**6.0**
Perfume and color	**1.0**

Water De-ionization

(*Continued from page 49*)

5. De-ionization removes completely all matter normally present in city water that is undesirable for pharmaceutical purposes.

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Table I

Cation Exchange Reactions

Sodium Cycle

$$2NaR + CaSO_4 \rightarrow CaR_2 + Na_2SO_4$$
$$2NaR + MgCl_2 \rightarrow 2NaCl + MgR_2$$
$$2NaR + Ca(HCO_3)_2 \rightarrow CaR_2 + 2NaHCO_3$$

Hydrogen Cycle

$$2HR + CaSO_4 \rightarrow CaR_2 + H_2SO_4$$
$$2HR + MgCl_2 \rightarrow MgR_2 + 2HCl$$
$$2HR + Ca(HCO_3)_2 \rightarrow CaR_2 + 2H_2O + 2CO_2(gas)$$
$$HR + NaCl \rightarrow NaR + HCl$$

NOTE: NaR = Sodium salt of cation exchange resin.
HR = Hydrogen derivative of cation exchanger.

Anion Exchange Reactions

Acid Removal

$$2\,RX + H_2SO_4 \rightarrow (RX)_2 \cdot H_2SO_4$$
$$RX + HCl \rightarrow RX \cdot HCl$$

NOTE: RX = Anion exchange resin with the acid binding substituent X.

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